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AARS meeting will spotlight the **changing role** of railroad superintendents . . . . . p. 26

June 14, 1965

# RAILWAY AGE WEEKLY

## Toronto: More new cars for Canada's transit pace-setter

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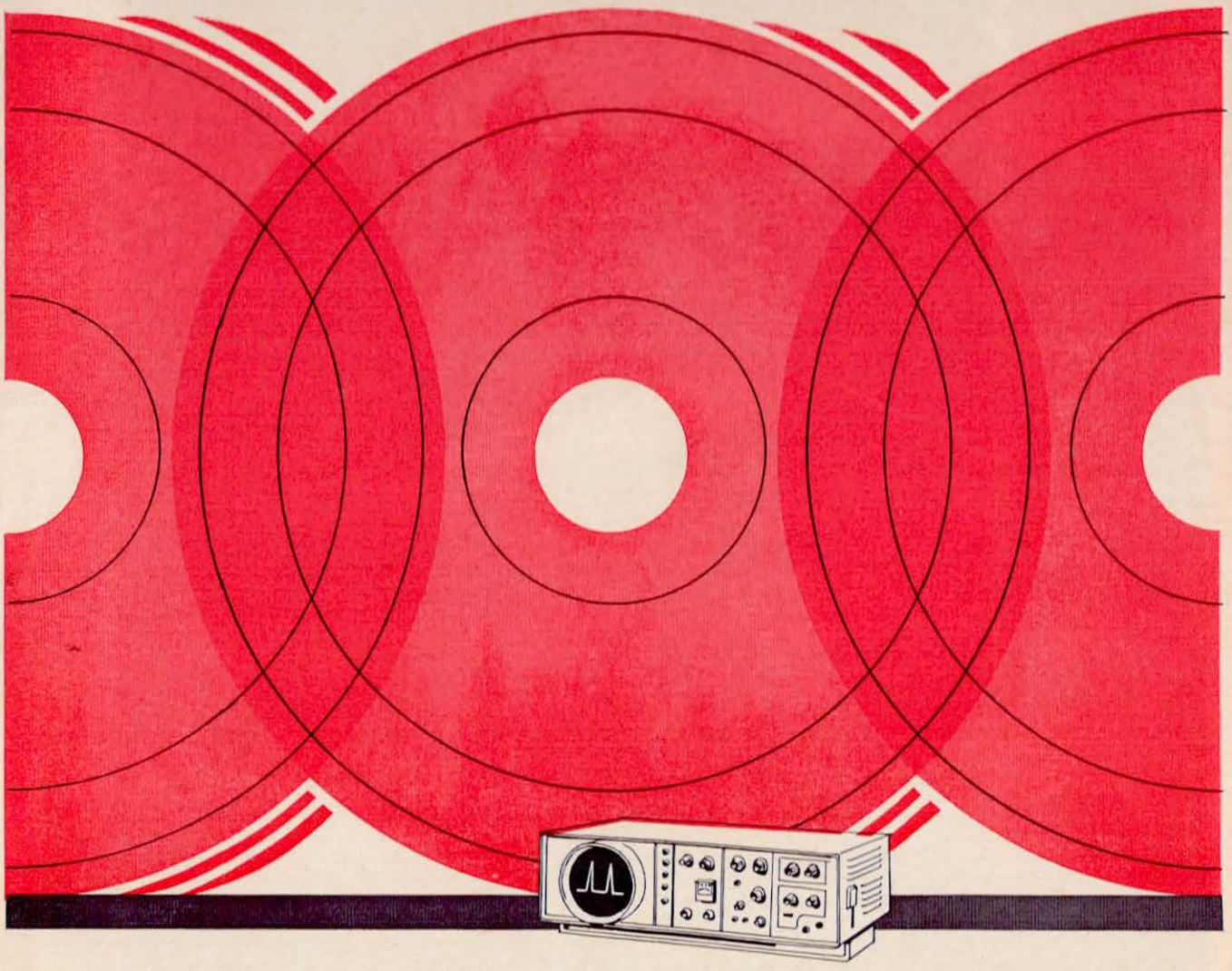

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# RAILWAY AGE WEEK AT A GLANCE

June 14, 1965 • Vol. 158, No. 24

## THE TORONTO STORY

### Toronto doubles its bet on new cars and lines

Highways, the growing Ontario city has decided, are no answer to downtown traffic congestion .....p.18

### Emphasis is on light weight

Toronto's new cars have the lowest space-weight ratio of any North American transit operation .....p.21

### Carbuilder assesses transit's future

Hawker Siddeley, builder of Toronto's new cars, sets its sights on new markets .....p.24

### NWP to reopen a vital line

This week, Northwestern Pacific will begin running trains over a line rebuilt after being wiped out by floods ....p.11

### Superintendents—and their changing role

AARS's 69th annual meeting will explore the increasingly broad and complex role of operating officers .....p.26

### The Action Page—A big try in New Orleans

The improvement of management-employee communications is the big topic in New Orleans this week.....p.50

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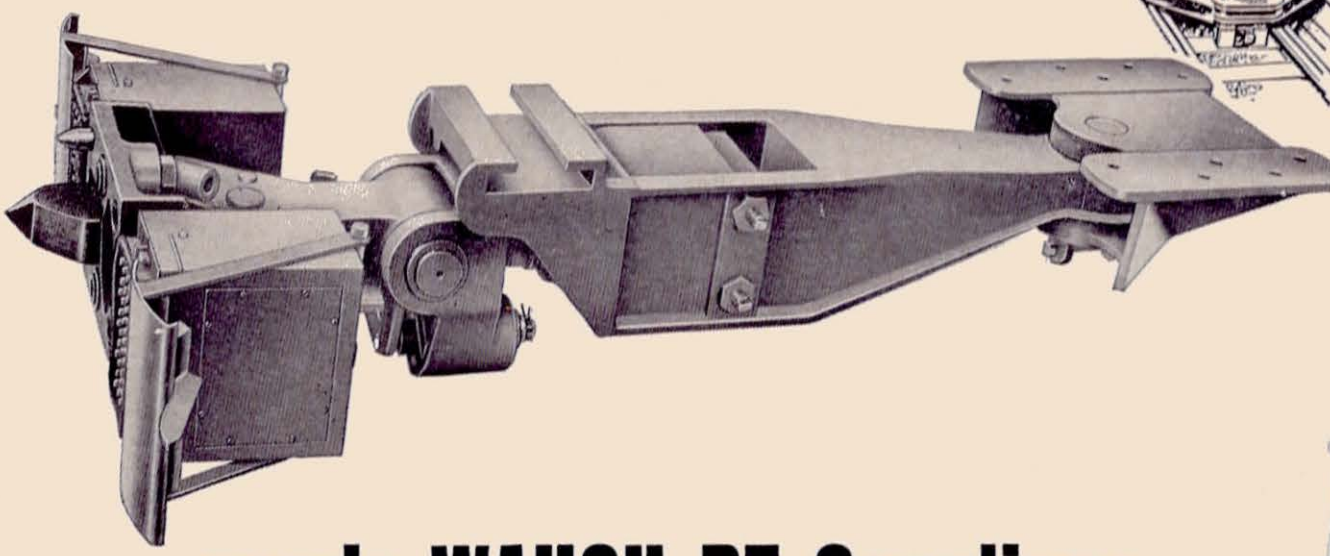

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# SHORT AND SIGNIFICANT

**1965 capital outlays now put at $1.63 billion**

This year's capital expenditures of the railroads are now expected to total $1.63 billion. That's from the latest quarterly forecast of the Department of Commerce, and it's up slightly from the previous estimate. It would be 16% above 1964's $1.41 billion, supplanting that as the all time high. Prospective third quarter outlays are put at $390 million, compared with $370 million in 1964's July-Sept. period.

●

**ACL-Seaboard merger goes to Supreme Court**

The Atlantic Coast Line and Seaboard Air Line will take their merger case to the United States Supreme Court. They have filed notice to that effect with the three-judge court in Jacksonville, Fla., which stayed implementation of the ICC's favorable decision. That court ordered the Commission to reconsider with special reference to anti-trust phases. A Commission appeal is also expected.

●

**Canadian development group being organized**

A board of directors has been established to run the Alberta Railway Resources Corp., the provincially-financed line which will be built and operated by the Canadian National to tap undeveloped mineral and timber lands near the western border of Alberta. The initial phase, on which planning is proceeding, calls for building about 100 miles of line north from the CN Edmonton-Jasper main line near Hinton. The line may eventually be extended to reach Grande Praire, Alta., where it would connect with the Northern Alberta Railway.

●

**A big rebuilding job for GN's big bridge**

One of the crippling blows struck by the April-May Mississippi floods was concentrated in the space of a few square yards—the area covered by one of the piers of Great Northern's famed stone-arch bridge at Minneapolis. The pier was apparently undermined by the surging waters —and the resulting weakening and a dip in the tracks forced closing of the structure to traffic. Now, however, GN has made its assessment of the damage—and "extensive permanent repairs" are about to be made.

●

**'Not subject to review'**

Canadian Pacific has lost a court fight over allocation of costs on reconstruction of a bridge carrying a highway over CP tracks—but the implications of the decision by the Supreme Court of Canada may be more important than the dollars immediately involved. Apportionment of costs was originally set by the Board of Transport Commissioners, and challenged by the railroad. In its ruling, the court called attention to the Board's wide discretionary powers in construction and cost matters—and, said the unanimous opinion, these powers are not subject to review by the court.

●

**RLEA discontinues its PR department**

For several years, there hasn't been a busier public relations department in railroading—at least from a standpoint of press releases issued—than the PR set-up of the Railway Labor Executives' Association. By June 1, RLEA had mailed out Release No. 530. But, on the same date, No. 531 came along, too—and it announced the discontinuance of the department. RLEA said the move was made "because of the resignation of Milton Plumb as (the department's) director." From now on, Release No. 531 added, press inquiries will be handled by RLEA Chairman George E. Leighty or executive secretary D. S. Beattie.

# MONDAY MORNING REPORT

**Divisions deal entering wedge for general pact?**

The ICC undoubtedly hopes that the divisions agreement between eastern railroads and three western lines will be parleyed into a settlement of the whole transcontinental divisions controversy. The eastern roads acted through their Traffic Executive Association. The three western parties are the Southern Pacific, Cotton Belt and Denver & Rio Grande Western. The TEA announcement indicated that negotiations for a general settlement are under way. It said the present pact provides that other western lines may become parties to it on or before Sept. 1.

**ICC doesn't like role of umpire**

The controversy is the 11-year-old fight about how to divide revenues from joint rates on transcontinental traffic. The Commission got into it after receiving complaints from dissatisfied railroads. It does not get into divisions unless it receives such complaints or representations to the effect that disagreeing railroads would like to have their revenue-splitting arrangements prescribed. Over the years, individual commissioners have made no secret of their distaste of this Commission role of umpire. Some railroad executives feel the same way. They think the industry can best support its call for less regulation by demonstrating that it has maturity to settle its own family squabbles.

**Remainder of case now before courts**

The case involved was decided by the Commission more than two years ago—in March 1963. It was the No. 31303 proceeding, and the general effect of the decision would be to shift something like $50 million a year from western roads to eastern and midwestern lines. The western roads took the case to a special three-judge court in the federal district court at Los Angeles. That court last January sent the controversy back to the Commission for more detailed findings and conclusions. Appeals to the United States Supreme Court were pending there when that court's 1964-1965 term ended last week.

**What the ICC ordered**

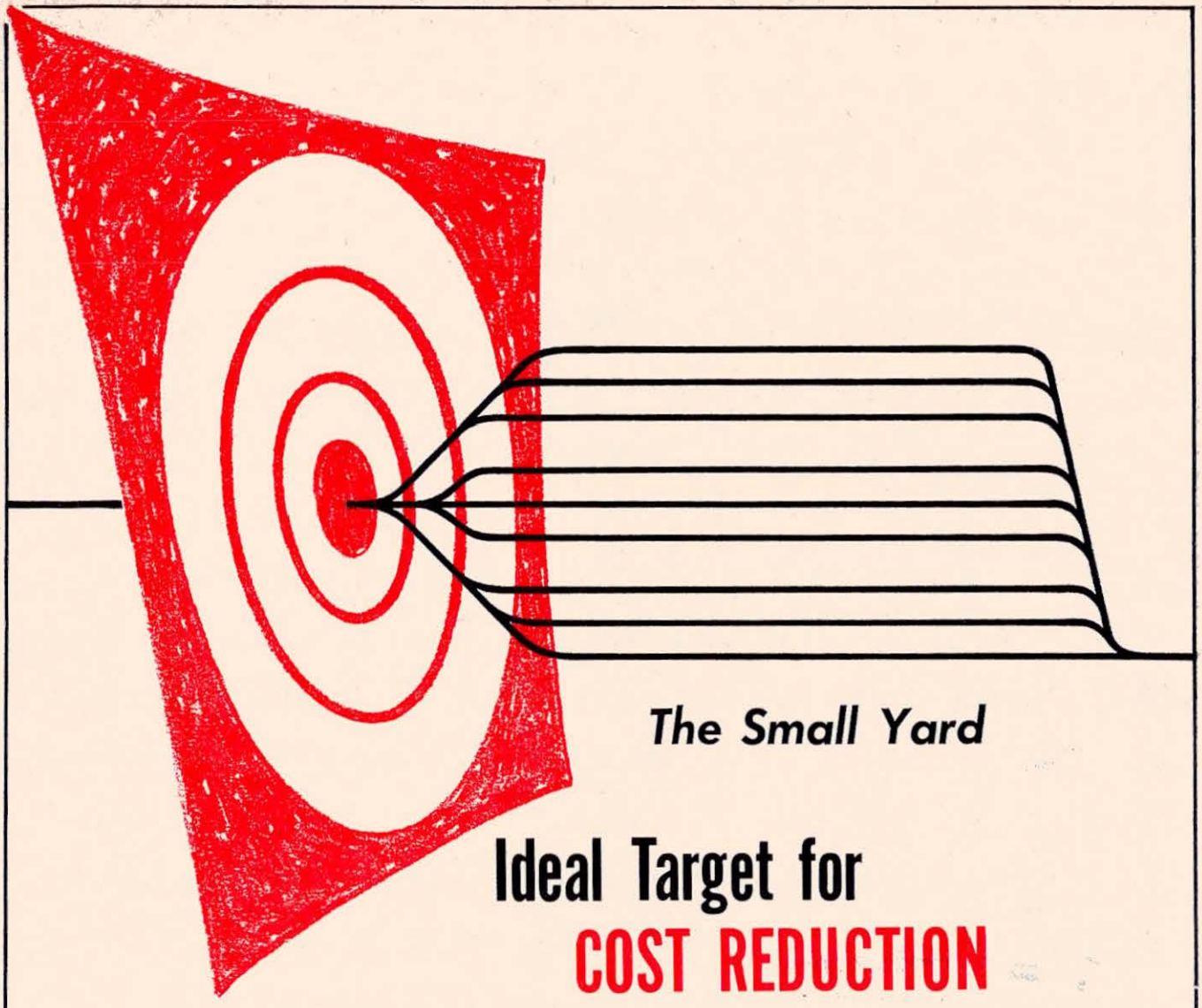
Under the Commission's decision, the eastern railroads would have got only a little less than they sought. On shipments between New York and the Pacific Coast, for example, their division is now 27½% of the joint revenues. They sought 37% and the decision would give them 34%. Losers, of course, would be the western roads, whose pleadings included a cross-complaint seeking to raise their share of the revenue at stake by about 10%.

**Eastern roads taking less**

The settlement is expected to give eastern roads about 32½% of the coast-to-coast revenues. It will become effective, as the announcement put it, on "transcontinental traffic moving on or after July 1, 1965."

**Savings for settlement stay with western roads**

That means that the three western roads will keep the money they have been saving to pay the bill if the Supreme Court upholds the Commission. The Commission's order, though stayed, has an effective date of July 1, 1963. For the two years since that date, all affected western roads have been setting aside amounts for which they might become liable. These accruals now aggregate about $100 million, which a general settlement on the same basis would leave in the West. Midwestern roads, of course, would have to be parties to any general settlement. They would have their share of West-Midwest revenues increased from 16½% to 22% if the Commission's order became effective.



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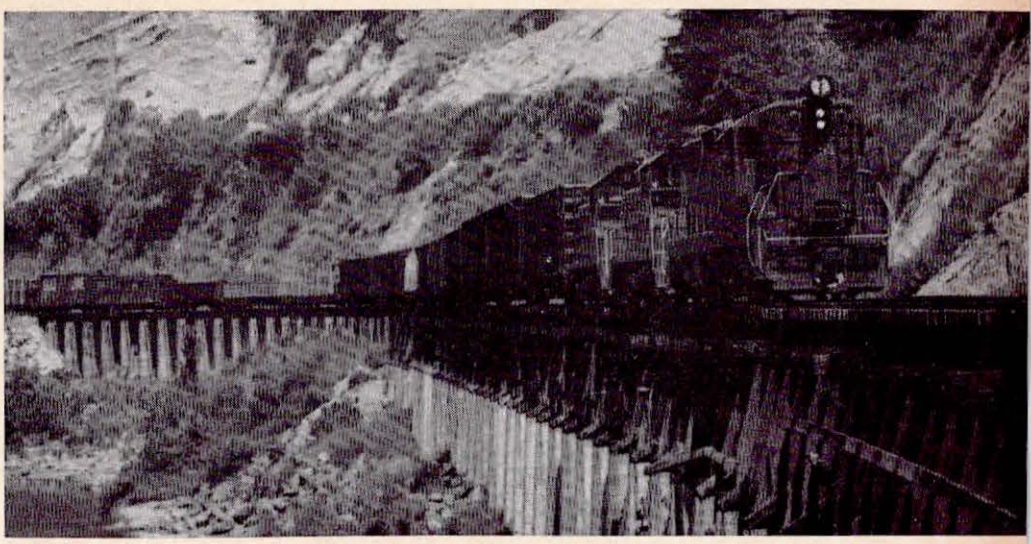
# NWP to reopen a vital line



**Flood waters obliterated a third of Northwestern Pacific's total mileage last December. This week, 177 days and $10 million later, the road officially reopens the route.**

The golden spike that was driven to mark completion of the Northwestern Pacific in 1914 will feel the weight of a hammer again this week. This time it will be driven into a polished redwood tie in California's Eel River Canyon to symbolize completion of a mammoth, $10 million reconstruction job to put an NWP line back in business after a disastrous flood.

Swinging the maul will be U.S. Congressman Don Clausen (R., Calif.), who's credited with getting passage of federal disaster relief bills for the flood-ravaged area.

The June 16 ceremony at South Fork will focus attention on the 177-day task of rebuilding 100 miles of line that were washed out when the Eel River went on a rampage last Christmas week. In the course of the work, NWP and its parent, Southern Pacific, had to rebuild three major bridges.

Immediately after the rails are symbolically joined a 75-car "North Coast Lumber Special" will rumble past the speakers stand with more than three million board feet of lumber from the forests of Humboldt and Del Norte Counties. Lumbering operations in the region have been hard hit since the flood because of the loss of railroad service. Some 2,000 persons in the lumber industry are now going back to work as operations return to normal.

Before the floods, 74% of the area's total lumber production moved to market by NWP, constituting 80% of the road's traffic. Since the floods, some of the lumber shipments have been diverted to highway, but production was greatly curtailed pending reopening of the railroad.

● **Good news for shippers.** The NWP began accepting carload dead freight from points south of South Fork, effective June 7, and north of South Fork, June 11. Shippers have been loading cars preparatory to moving them to market when the line is opened this week. The embargo on LCL and perishables will remain in effect until a later date. The road's action modifies an embargo issued Dec. 23 when all less-than-carload freight and carload freight to or from points north of Ukiah was refused as a result of the washout.

Resumption of freight service on the line, which stretches south to the San Francisco Bay Area to connect with transcontinental rail service, will be the signal for an all-out civic celebration.

The spike-driving ceremonies at South Fork, some 40 miles south of Eureka, are expected to attract more than 3,000 people, including federal, state and local government officials and railroad officers. The affair is being sponsored jointly by the Humboldt County Council of Chambers of Commerce and the railroad.

The historic golden spike to be used in the ceremonies has rested for more than 50 years in the archives of the Southern Pacific. It was originally presented to the Northwestern Pacific by the citizens of Humboldt. It was the last spike driven on the NWP to connect Humboldt County and the North Coast timber-producing area with the San Francisco Bay Area when the railroad was first completed Oct. 23, 1914.

● **When the waters came.** The disaster that hit the railroad nearly six months ago—and which took 800 men and 500 pieces of equipment to clean up after—began with pounding rains. Northwestern California was soaked almost continuously from Dec. 18, 1964 to Jan. 7, of this year. And then the snows high in the mountains began to melt.

The Eel River rose to record flood levels and roared over the banks of the narrow Eel River Canyon. The NWP line enters the canyon some 15 miles north of Willits and follows its twisting course for more than 100

## WATCHING WASHINGTON WITH WALTER TAFT

TAFT

● **THE ICC** has under way an extensive realignment of its headquarters bureaus and offices. The reorganization plan is being made fully effective as soon as possible. It is expected to bring more efficiency and economy to Commission operations. Its most important feature is the consolidation of three formal proceedings bureaus (Operating Rights, Rates and Practices, and Finance) into an Office of Proceedings.

This new Office's place in the Commission organization will be on the same level as offices of the Managing Director, General Counsel, and Secretary. Like heads of those offices, its director will report to the Commission's chairman. First director of the new Office is Bertram E. Stillwell, who had been director of the former Bureau of Operating Rights.

**THE REVAMP** will also consolidate or reshuffle some functions of other Commission offices and bureaus. One result will be a reduction in the number of bureaus from ten to six. Another will be the assignment of more work to the Office of Managing Director.

**NO CHANGE** is contemplated in the organization or functions of the Office of the Secretary. The set-up in the Office of the General Counsel, however, will be modified to create two sections—Litigation and Advisory Opinions. That is expected to provide more effectively for performance of this Office's two major functions.

**THE SIX REMAINING BUREAUS** will be Accounts, Enforcement, Operations and Compliance, Railroad Safety and Service, Traffic and Economics. Only the Bureau of Traffic will be left unchanged. The Bureau of Economics, as successor to the Bureau of Transport Economics and Statistics, will be confined to research and statistical-analysis functions. Handling of carrier reports will be transferred to other bureaus—railroad accident reports to the Bureau of Railroad Safety and Service and others to the Bureau of Accounts.

**THE BUREAU OF RAILROAD SAFETY AND SERVICE** will have functions of the former Bureau of Safety and Service, except those relating to the transportation of explosives and other dangerous articles. These go generally to the new Bureau of Operations and Compliance, although the new Bureau of Enforcement will get enforcement phases of that work. This bureau will also get other legal functions formerly assigned to the Bureau of Safety and Service, and all functions of the former Bureau of Inquiry and Compliance.

**THE BUREAU OF OPERATIONS AND COMPLIANCE** will embrace all operations, compliance and investigation activities, except the exclusive railroad activities left with the Bureau of Railroad Safety and Service. Absorbed by Operations and Compliance will be the staffs and functions of the former bureaus of Motor Carriers and Water Carriers and Freight Forwarders.

**THE NEW WORK** going to the Office of the Managing Director will include all data processing activities. This will be transferred principally from the former bureaus of Transport Economics and Statistics and Motor Carriers.

**THE COMMISSION** considers this revamp of its headquarters setup as a logical third step in its modernization and streamlining program. It explains that reorganization at the Commission level came in 1961 with changes which included creation of the Office of the Vice-Chairman. And extensive changes in the field organization were effected during 1962 and 1963.

miles to a point north of Scotia. Its roadbed hugs the canyon walls most of the way.

The river reached its crest on Dec. 22, churning through the canyon and over the rail line, ripping out track, bridges, communication lines, stations, living quarters and maintenance buildings. At one point the river was 21 feet above NWP's tracks, and at Island Mountain Bridge, rails that normally stood 84 feet above the surface of the river were torn out. One tunnel had water in it 20 feet deep.

After an inspection trip, NWP Vice President Charles E. Neal reported: "There are at least 30 miles of roadbed completely wiped out, just as if it had never existed. At some locations we can't even find the rails that were once there."

Virtually none of the track escaped damage as heavy mud slides, triggered by the incessant rains, roared down canyon slopes to erase long stretches of roadbed. Riprap and retaining walls were cut away by the swirling river.

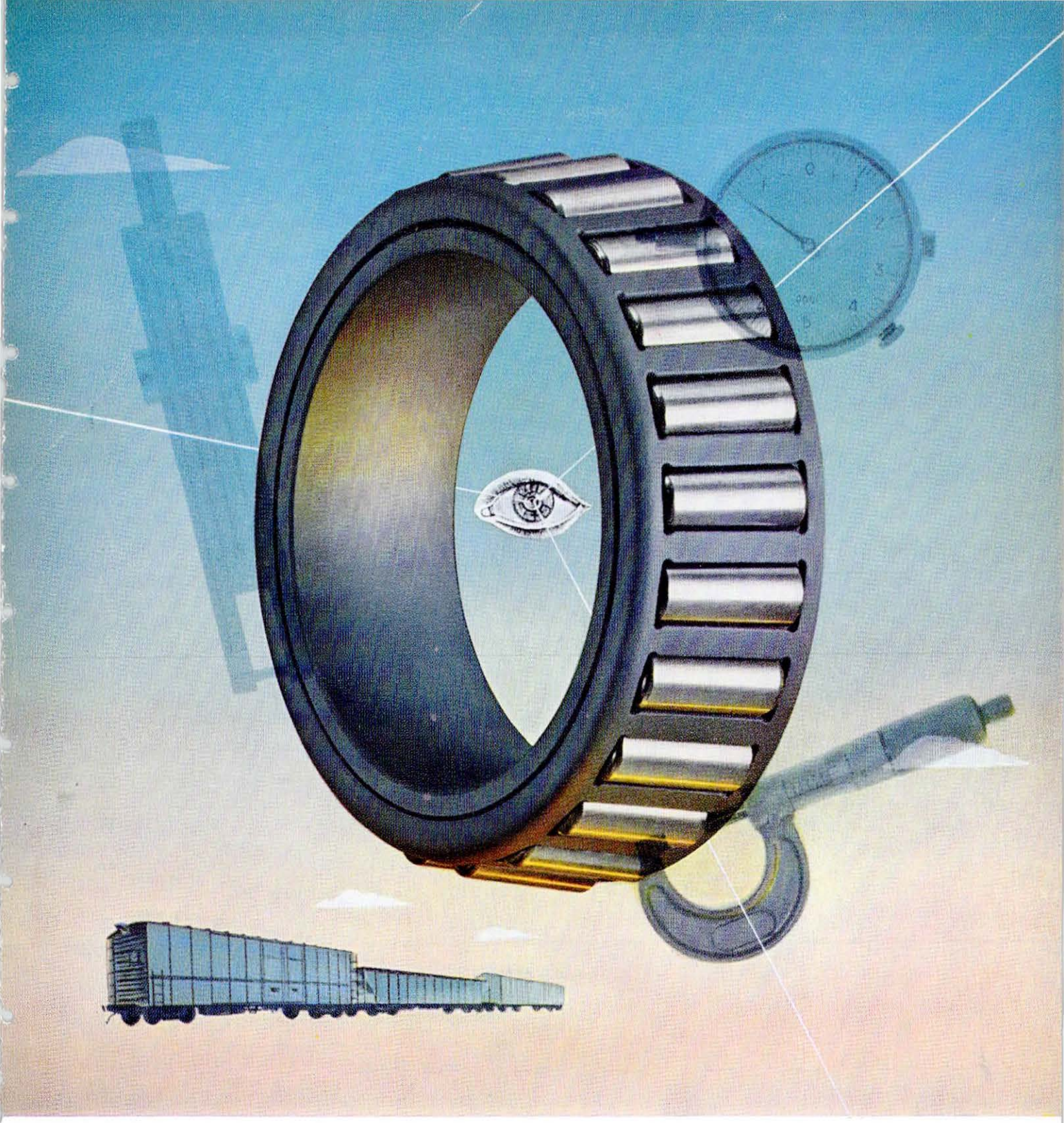
Rebuilding the line required installation of 60 miles of bank protection in the canyon totaling millions of cubic yards of rock; 40,000 railroad ties; almost 25,000 linear feet of culvert pipe; nearly 6,000 cubic yards of concrete (in bridge piers). Much of this material had to be trucked in.

All trains had been moved out of the canyon on the day before the flood reached its peak, thus preventing damage to a single locomotive, but many rail cars could not be saved. Over 35 were lost, and 250 others—damaged by the flood waters—needed repairs.

About 100 miles of NWP's pole line communications system, destroyed during the disaster, were replaced by a new microwave and VHF radio network between Willits and Eureka.

The three wrecked bridges required months of work. At Island Mountain (where NWP has a 620-feet bridge) two 200-foot trusses were swept from their piers, two girder spans totaling 160 feet were lost and a huge concrete pier was torn from its base. At Cain Rock, three girders at one end and two at the other end of the 1,100-foot-long bridge were toppled from their piers. At South Fork, two 200-foot spans and one 90-foot-high pier were ripped out of the 780-foot bridge.

Reopening of the line this week does not mean the end of reconstruction work—it will still be many months before the line is restored to its former operating condition. But the NWP's recovery from one of the greatest disasters of its kind ever suffered by a U.S. railroad is, in the words of SP Chairman D. J. Russell, "a tremendous achievement." ■



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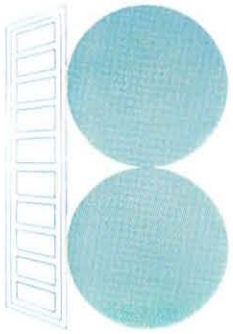

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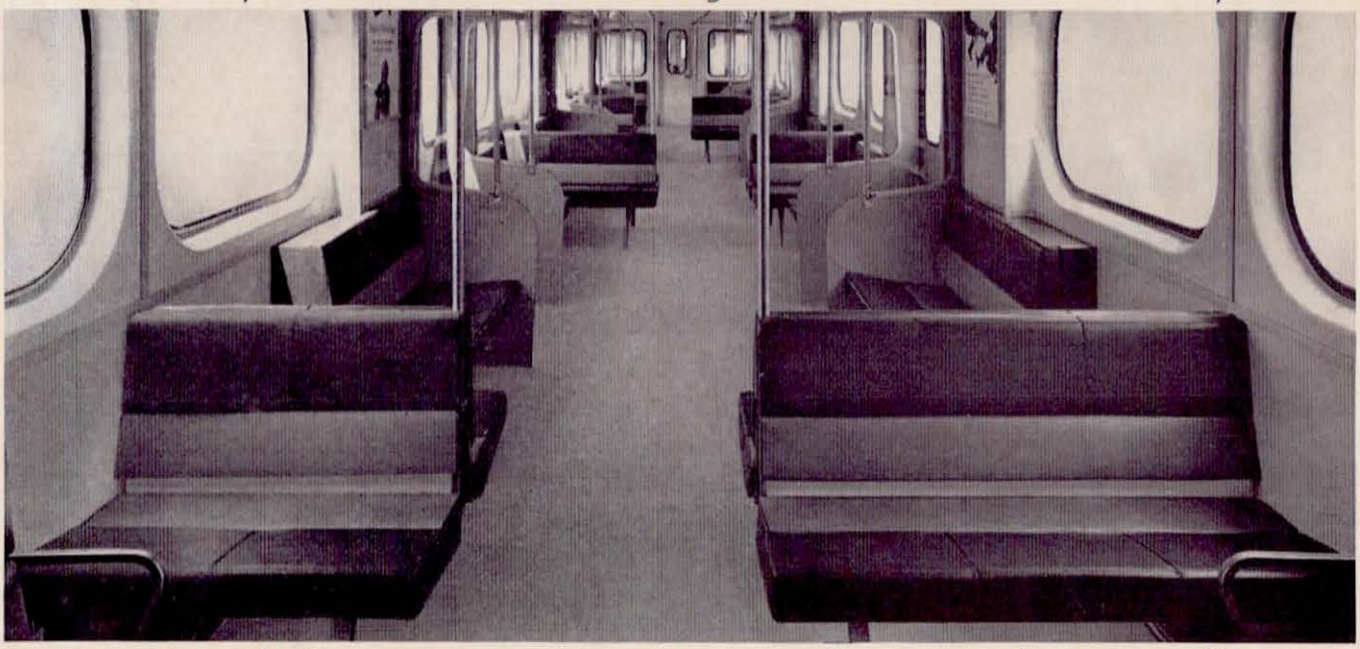

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*Thursday, September 16:* Arrive in Zurich, 7:10 A.M. Leave Zurich 8:35 A.M. for 1-hour flight to Munich.

*Friday, September 17 to Thursday, September 23:* The entire week in Munich can be devoted to individual interests at the International Exhibition of Transport and Communications and International Permanent Way Exhibition.

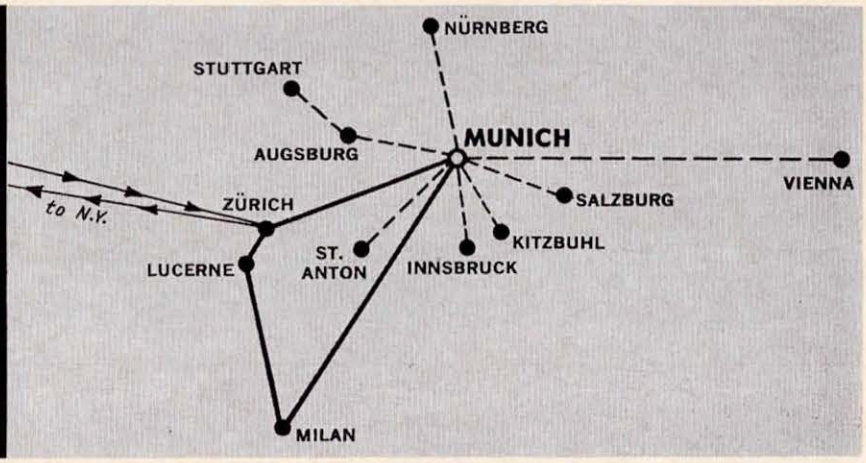
*Friday, September 24:* Leave 8:15 A.M. by train for Milan. Arrive early in the evening.

*Saturday and Sunday, Sept. 25-26 at Milan:* Tour of city's large railroad installations.

*Monday, September 27:* A.M. departure by train for Lucerne. Arrive early afternoon.

*Tuesday, September 28:* At Lucerne.

*Wednesday, September 29:* Leave by train for Zurich after breakfast. Leave Zurich at 1 P.M. by Swissair DC-8 Jet for a daylight return to the United States.

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**READY TO GO** in December will be all 164 of these aluminum cars being acquired for opening of new Bloor line.

## TRANSIT IN CANADA

# Toronto doubles its bet on new cars and lines

**When appraisal of its metropolitan growth showed highways to be no panacea, big Ontario city came to appreciate the efficiency of the steel wheel and steel rail.**

A pattern for the future of highly urbanized areas is emerging in Toronto. Railroads and rail rapid transit both have important roles there. Transit has long been recognized as an essential municipal service in Toronto. It is probable that over the next few years railroads of the area will become an integral part of the suburban passenger transportation network.

● **Pioneer subway.** The opening of Canada's first subway in 1954 was followed by authorization of four separate extensions. The first (University line) has been open for two years, and the second is scheduled for opening late next December. The present 6½-mile transit system will grow by an additional 8 miles when the Bloor-Danforth line opens this year and by 6 more miles in 1967.

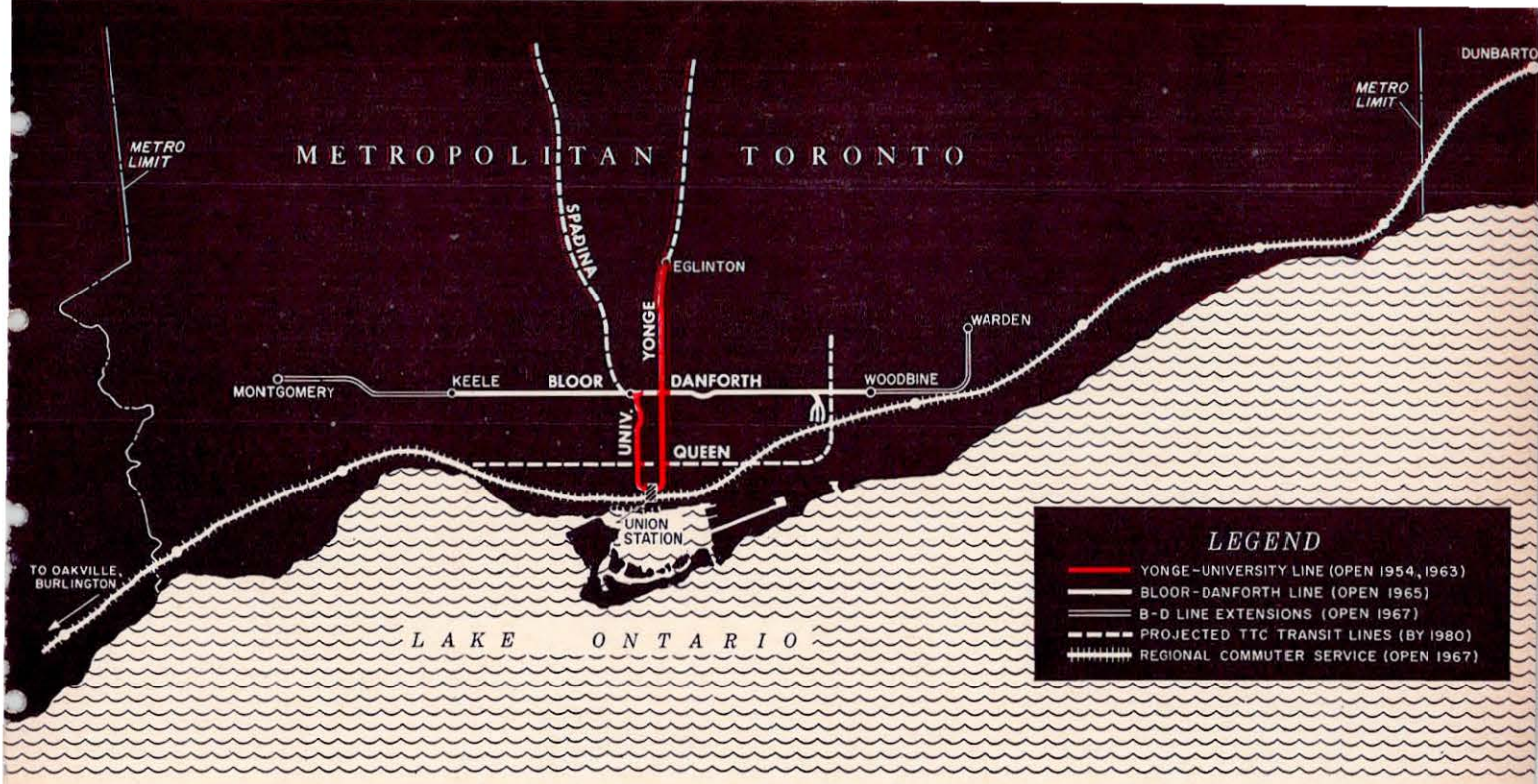
Already on the drawing boards are two completely new routes and another extension of the original Yonge line, which should give Toronto 39 miles of rapid transit routes by 1980. And there seems to be no question on the part of the public or at any level of government that the investment in rapid transit will pay off handsomely.

In addition to providing fast, efficient transportation and relieving downtown traffic congestion, the pioneer Yonge line has encouraged redevelopment and new developments along its entire route. Between 1952 and 1962, tax assessments in districts adjacent to the downtown portion of the subway increased 45%; along its outer reaches valuations swelled by 107%. This compares with an average assessment increase of 25% for all of Toronto over this decade.

The Yonge line, say city officials, has in large measure been responsible for bringing in more than enough new tax dollars to pay the annual amortization costs of the subway.

● **And now, Bloor street.** Already the scheduled opening of the Bloor-Danforth line has caused a rise in property values along the route. Financial experts say that not only is the subway causing a rise in values of commercial properties, but also in the sale of houses. "Toronto's new east-west subway is adjacent to properties now valued at approximately $250 million," reported the Financial Post recently. "These same properties will double in value to $500 million in a few years."

All of the subway which is now operating is within the city of Toronto. The new Bloor-Danforth line, however,




**BRIGHT AND SPACIOUS,** each new Toronto car seats 83 passengers in an interior designed for easy maintenance.

will extend beyond the city's border into an adjacent municipality. The authorized extensions at the east and west ends of this route will bring transit service into three more suburban communities within two years. All this, nevertheless, is well within the jurisdiction of the Toronto Transit Commission, which is responsible for public transit in a 240-square-mile area, and already operates trolley and bus lines into numerous suburban areas.

● **Area government.** Important in making Toronto a transportation pace setter—not only in Canada but in all of North America—was the establishment a dozen years ago of a federation of the city of Toronto and 12 contiguous towns and townships into the Municipality of Metropolitan Toronto. TTC is an agency of this regional government.

When the so-called Metro government was established it marked the first official political recognition in the Western Hemisphere of the metropolitan area as the newest form of urban settlement created by the modern industrial society. Along with education, roads, safety, water, sewage, welfare and most of the other traditional municipal services, public transportation was defined as a responsibility of the Metro.

Balanced transportation has been the goal of Metro's area planners from the beginning. From the outset, the Metropolitan Council recognized that roadways and public transit are each required to perform the particular function for which they are best suited. Public transit, that is, should handle the mass movement of persons in areas of relative concentration and private autos should handle the diversified day-long movements which characterize a metropolitan area. This has led to the simultaneous and coordinated development of the public transportation system and the highway network.

● **A goal achieved.** About 70% of the peak-hour trips into the central business district and about 33% of all area movements during the day are made by public transit. Metro government feels completely justified in its policy of public financial support not only for highways but for the transit system as well. And rapid transit seems destined to be increasingly involved in their planning.

## Role for railroads

Now railroads are being brought into the picture as a means of alleviating the ever-growing crush of traffic in a portion of the Greater Toronto area. Late last month the Province of Ontario announced a $7.5-million program which will establish an entirely new commuter train service through the burgeoning "bedroom" suburbs in the Lakeshore area east and west of metropolitan Toronto.

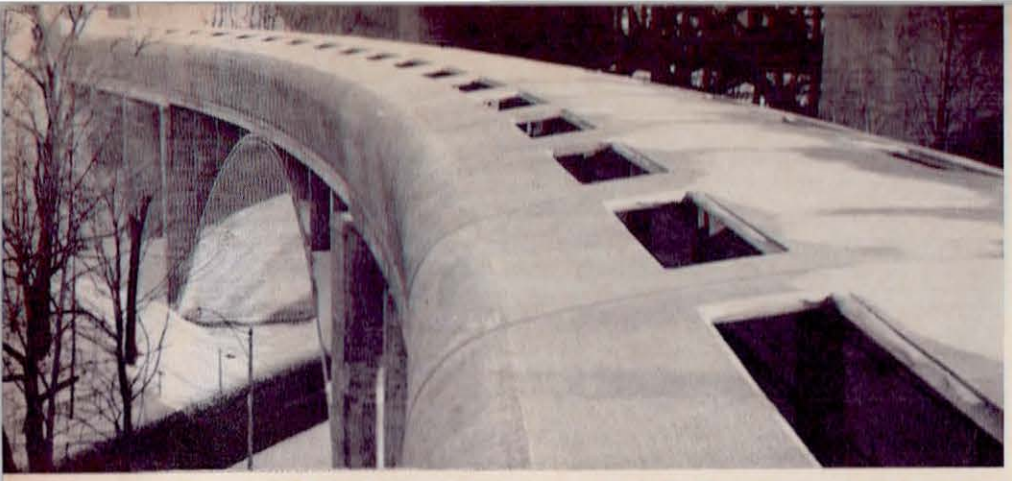
Involved will be new cars and locomotives, new stations, and signalling changes which will fit the Canadian National's main line through the city for a typical high-frequency suburban passenger operation. It is anticipated that the service will initially require a provincial subsidy of up to $2 million annually.

If the 600,000 residents of the Lakeshore area "take to commuter rail service," Premier John Robarts told the Ontario Parliament recently, there could be substantial saving on highway construction. Even with heavy expenditures on freeways and highways along the Lakeshore, he warned, flexibility of movement could become increasingly restricted if the automobile is the only general means of travel.

● **Less highway building.** It is estimated that the 15,000 daily riders of the projected trains would, if they were to commute by private automobile, require the building of four additional freeway lanes. Premier Robarts pointed out that if all those the rail line would be capable of carrying—up to 12,000 per hour—were to drive during rush hours, ten new lanes would be needed.

In addition to rush hour service, there will be hourly runs between Oakville, 21 miles west of Toronto, and a new station, Dunbarton, 19 miles east of the city. Four peak-hour trains will operate to and from Burlington, 11 miles west of Oakville.

The new operation is the result of work by the Metropolitan Toronto and Region Transportation Study, organized by provincial and metropolitan governments, and headed by C. S. MacNaughton, Ontario's minister of highways. W. R. Allen, head of the Metro government, has called the commuter service



Concrete-covered bridge over ravine on new route is designed to muffle sounds of passing trains from adjacent high-rise apartments.

## Bloor–Danforth: Quiet and attractive

Twenty new stations on 8-mile line are spaced about 2,000 feet apart. TTC utilizes various sound deadening arrangements in its tunnels.

"another step in achieving a truly balanced transportation program for the area."

Already the projected service has been termed a pilot project which might well lead to establishment of similar operations over other railroad lines radiating from the center city. The Transportation Study estimates that 45,000 commuters might eventually be moved by such services. For the present, however, all efforts are being directed at opening the CN service late in 1966 or early in 1967. Probably three years will be required to assess its results.

• **No questions asked.** When it comes to rapid transit, Toronto has virtually no questions about results. The present 6½-mile subway line moved approximately 250,000 passengers each week day during 1964, with the year's total of 76 million up 3 million from 1963. Subway trains handled approximately 14% of TTC's passenger load last year, a figure which should jump dramatically in 1966 when the Bloor-Danforth line gets into full operation.

Approximately 45% of TTC passengers were handled by street car in 1964; street cars are still used on most of the major surface routes with one-direction passenger loads of 9,000 per hour on some lines.

Actually, it was this crush of passengers on heavily travelled street-car routes which produced Toronto's subway. During World War II it was realized that the city's growth would soon exceed the capacity of the surface route on Yonge Street, the main north-south artery. One-way passenger loads were running as high as 12,000 passengers per hour.

In 1946 voters gave 10-to-1 approval to a subway under Yonge Street which could move 40,000 passengers per hour. Construction started in 1949 and the 4½-mile route from Union Station to Eglinton opened in 1954. Total cost was $67 million.

By the time the Yonge subway was in operation, the traffic congestion on Bloor Street, a major east-west route, was at about the same state as pre-subway Yonge Street. Steady growth in suburban areas tributary to the Bloor car line brought a TTC recommendation to the Metropolitan Toronto Council in 1956 that a Bloor Street subway be considered.

Financing of the $200-million project was approved in 1959 with completion of the three-stage construction set for 1969. Metro initially assumed 55% of the cost, TTC 45%. This was subsequently adjusted so that the Metro government pays 70% and TTC 30%. The municipality purchased and will retain ownership of the right-of-way. It is expected that most of this cost will eventually be recovered through the sale of air rights.

• **Getting the job done.** The enlightened attitude of the Province of Ontario, which makes rapid transit fully as deserving of public funds as roads and expressways, has been a vital factor in speeding the Bloor-Danforth line. A $60-million provincial loan in 1961 made it possible to combine the second and third stages of construction with a new target date of 1967. Starting in 1964, the province made additional contributions toward construction costs so that the completion date could be moved to early 1966.

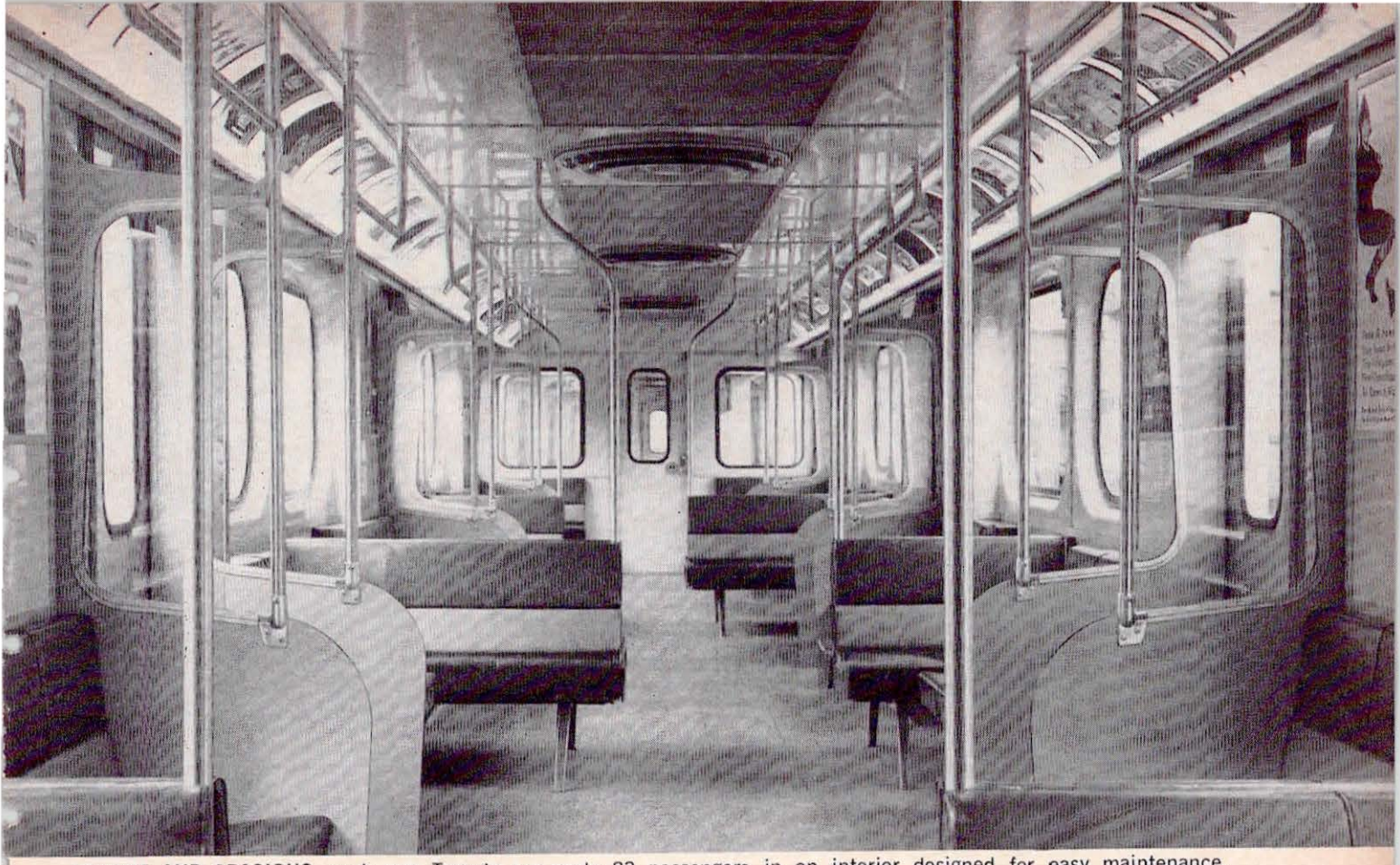
Late last month it was announced that the new line will be opened on Dec. 30, 1965. "This is even ahead of our most optimistic estimates," said TTC Chairman Ralph Day. "We were shooting for an early 1966 opening and I'm sure that Toronto citizens will appreciate the earlier opening."

The first stage of the project, the University line, which opened early in 1963, has attracted patronage comparable with the original Yonge Street route. It is expected that the Bloor-Danforth line will soon be carrying 345,000 riders daily. From the two terminal stations, Keele and Woodbine, passengers will have a direct ride downtown in 20 minutes.

Keele and Woodbine are only interim terminals. Construction of six more miles of line at a cost of $77 million is already proceeding. Extensions of three miles at each end of the Bloor-Danforth route will give Toronto a 14-mile crosstown subway by December 1967, and a total of 20 route miles.

Next extension to the TTC rapid-transit system will be the Spadina Line. The Metro council recently approved construction of a transit right-of-way along the entire length of the projected Spadina Expressway from Bloor Street to the northwestern corner of the Metro area. Roadbed for the transit line will be built at the same time as the highway.

Prior to 1980 it is expected that another crosstown line through the center of the city adjacent to Queen Street will be built. Also planned is a northward extension of the Yonge line.



**BRIGHT AND SPACIOUS,** each new Toronto car seats 83 passengers in an interior designed for easy maintenance.

TRANSIT IN CANADA

# Emphasis is on light weight

**TTC wanted biggest, lightest cars available; the 164 coming from Hawker Siddeley Canada have these features . . . and more.**

The lowest weight-space ratio ever achieved on North American rapid transit is probably the most significant characteristic of the 164 75-foot cars being delivered to the Toronto Transit Commission by Hawker Siddeley Canada, Ltd.

Continuing the emphasis on light weight which resulted in an earlier order for 36 75-foot cars delivered in 1962, TTC has again had its car-builder take full advantage of new developments in aluminum.

Three years' experience with operation of long, lightweight cars has demonstrated conclusively to TTC that there are significant savings in capital, operating and maintenance costs with such equipment.

Actually, the drive to increase the size of individual vehicles developed even before TTC acquired its first subway cars in the early 1950s. At that time, it was initially planned to use 48-foot cars in ten-car trains. Prices quoted for such equipment were so high that the final result was the 57-foot cars which make up the bulk of the present TTC fleet and are used in eight-car trains.

Next step came in 1961, after Canadian Car engineers had shown that six 75-foot cars would transport as many riders as eight of their 57-foot models, with an appreciable reduction in first cost and a 19% reduction in power consumption.

- **Spacious interiors.** The near 75-foot length and width of over 10 feet for the new Hawker Siddeley cars provides more than 700 square feet of passenger space with seating capacity for 83. Each car weighs 56,000 pounds. Compared with the 575 square feet of floor space and 84,000-pound weight of the existing 57-foot models on TTC, there is a reduction of almost 50% in the weight-space ratio.

Similar, if less dramatic, relationships can be shown with recently built cars for other transit systems. The weight of many of these others, however, has not been due solely to car design. Older transit systems frequently must resort to shorter and, consequently, heavier cars because of tunnel and curve restrictions.

The $16-million order for 164 cars is due to be completed in December, just prior to the scheduled opening of the new Bloor-Danforth subway line. To meet this delivery, the cars are rolling off the Canadian Car Fort William Division production line at a six-per-week rate.

While the new equipment is being acquired in conjunction with the building of the Bloor-Danforth line, it will not operate solely on this route. Most of the projected service over the new

**PRODUCTION LINE** runs 2,600 feet through Ft. William, Ont., plant where aircraft, trailers and busses have been built. Decision to use this Canadian Car facility was based largely on detail and tolerances involved in transit cars.

## PARTIAL LIST OF SPECIALTIES

| | |
|---|---|
| Aluminum alloy | Aluminum Co. of Canada Ltd.<br>Kaiser Aluminum Co.<br>Reynolds Aluminum Co. of Canada Ltd. |
| Steel | Russelsteel Ltd.<br>Steel Co. of Canada Ltd. |
| Trucks | Dominion Foundries & Steel Ltd. |
| Wheels | Canadian Steel Wheel Ltd. |
| Axles | Dominion Steel & Coal Corp. Ltd. |
| Journal bearings | Canadian Timken Div., Timken Roller Bearing Co. |
| Automatic couplers | Canadian Ohio Brass Co. Ltd.<br>Canadian Waugh Equipment Co. Ltd. |
| Pneumatic brake | Westinghouse Brake & Signal Co. Ltd. |
| Compressor | Canadian Ingersoll-Rand Co., Ltd. |
| Motor alternator | Sangamo Co., Ltd., Wagner Leland Div. |
| Motor blowers | Sheldons Engineering Ltd. |
| Traction equipment | Canadian Westinghouse Co. Ltd. |
| Spicer drive | Holden Co. Ltd. |
| Propeller shaft | Twin Disc Clutch Co. |
| Nife battery | Amalgated Electric Corp. Ltd. |
| Lighting (Luminator) | Railway & Power Engineering Ltd. |
| Laminated panels | Arborite Co., Ltd., Div. of Comtar Construction Materials, Ltd. |
| Window frieze panels | Dominion Rubber Co. Ltd. |
| Floor covering | Norentide Ltd. |
| Doors | Robert Mitchell Co. Ltd. |
| Door, heating and ventilating controls | Vapor Heating (Canada) Ltd. |
| Sash | Beclawat (Canada) Ltd. |
| Glass | Faucher & Fils Ltd. |
| Windshield wipers | Sprague Devices, Inc. |
| Seats | Heywood Wakefield Co. of Canada Ltd. |
| Communications equipment | Associated Electric Industries (Canada) Ltd. |

line will involve through trains running to and from the existing Yonge-University line.

● **Two-car sets.** The cars are arranged for operation in semipermanently coupled, two-car sets which will be used to make up trains of two, four, or six cars. In each set, the A car carries the motor-alternator set and battery and the B car carries the air compressor. This is essentially the only difference between the two types.

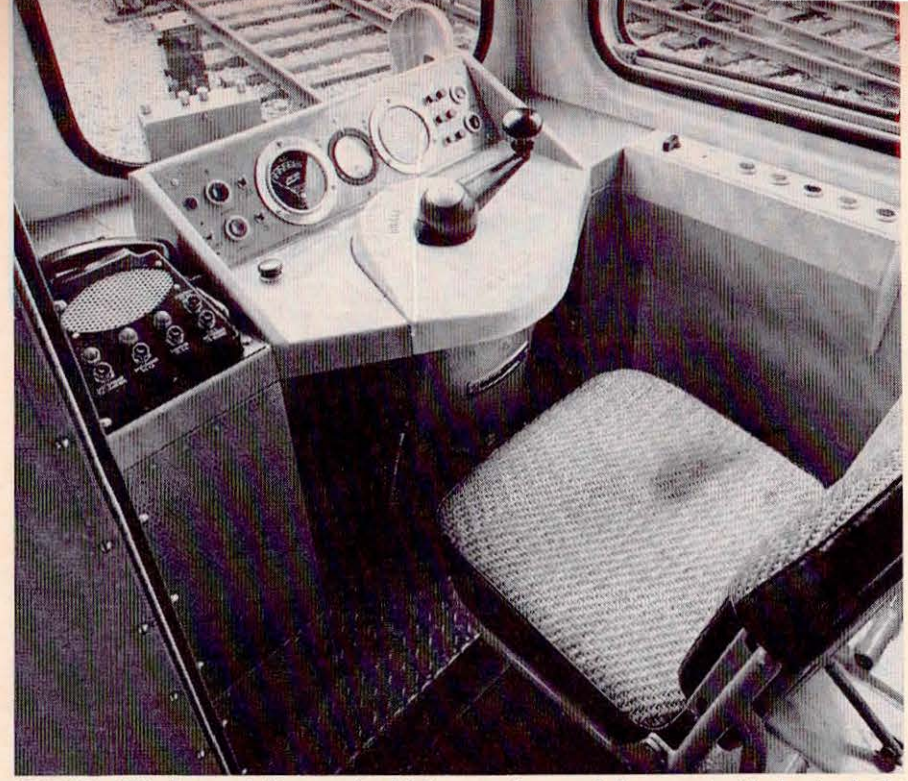
There is a motorman's cab at one end of each A and B car. Seating capacity of 300 passengers.
load is rated at 217, giving a total capacity of 300 passengers.

Each car is 74 feet 9⅛ inches over coupler faces and has an over-all width of 10 feet 3-7/16 inches. Over-all height of the car is 11 feet 11½ inches.

Car floors are 3 feet 7½ inches above the rail. Car ceiling is 7 feet 2 inches above the floor. The two four-wheel trucks, each having a wheel base of 6 feet 10 inches, are located on 54-foot truck centers.

● **Aluminum-alloy structure.** The car is basically an aluminum-alloy structure with steel end underframe assemblies and underframe crossmembers. There is no center sill. The welded alloy-steel sub-assembly at each end of the underframe incorporates the body bolster, draft sills, end sill and stub side sills. Bolsters and draft sills are built-up box sections; end and side sills are channels. The end floor, a steel plate, is welded to the end sill and extends from one side sill to the other.

The steel side sills of each underframe assembly nest in the extruded



**ROOMY CAB** has rotating seat which may be used by guard. Westcode brake system is activated by controller which also regulates acceleration.

aluminum-alloy side sills of the main car structure which extend from end sill to end sill and are reinforced at side door openings by aluminum-alloy pressed channels which also nest in the main side sills. The steel-channel pressings used for the floor crossbeams are attached to the side sills by riveting.

Aluminum alloy is used for the side framing. The side plates are extruded members extending from one end of the car to the other. Door posts are modified "C" extrusions, riveted at the bottom to the side sills and at the top to roof side plates. Body and corner posts are identical with the side door posts, riveted to the side sills at the bottom and to the side plates at the top. Intermediate window posts, extruded hat sections, are also riveted to the side sills and side plates. Extruded Z sections mounted between each of the vertical posts form the window sills. Auxiliary Z-section stiffeners are incorporated at window centerlines below the sills. Side sheathing is ⅛-inch aluminum-alloy sheet, corrugated below the windows and having a brushed finish on its exterior face. Sheathing is attached to the frame with Huck bolts.

● **End construction.** Each end door post is formed into a closed box section by riveting a formed section to the end sheathing of the carbody. The sheathing and door posts are riveted to steel floor angles and formed brackets which, in turn, are riveted to the steel underframe. End sheathing consists of four sheets. The two with window openings are formed so that windshields slope inward to eliminate glare from station lights. Stiffening of the end sheathing is accomplished by internal attachment of Z sections. The hood, incorporating destination sign and marker lights as well as the curved end-to-roof transition, is formed of aluminum-alloy sheet which is framed into the corner posts and end door posts and the transverse beam over the end door.

The roof, constructed of aluminum alloy, is a double shell with intervening spaces forming the plenums for intake and exhaust of air through the car's ventilating system. This arrangement is similar to that used on New York City transit cars.

The extruded hat-section carlines, transverse roof framing members, are riveted at their ends to the side plates and to Z-section purlins extending the full length of the roof on each side of the ventilation and fan openings in the ceiling. Car-length hat-section channels are also attached to the underside of the carlines. The external roof sheathing is riveted at the outer edges to the side plates and to bulkheads mounted above, and attached to, the carlines forming the plenum spaces of the ventilation system.

Sheet aluminum alloy is also attached beneath the carlines between the side plates and purlins to form the double shell. Outer edges of the external roof have openings fitted with louvered panels and dampers for passage of air to and from the ventilating system. Both inlet and outlet louvers have provision for rain entrapment and drainage through tubes passing down inside the corner posts at each end of the car.

● **Large door openings.** The four 3-foot 9-inch door openings on each side of the car are each fitted with two hollow sliding doors of aluminum alloy construction, internally reinforced. The doors, when opened, retract into pockets in the side framing.

Suspended from anti-friction hangers, and with bottoms running in guides to eliminate any rattle, each pair of doors is operated by a 37-volt dc electric door engine.

The manually operated end doors, similar in construction to the side doors, are fitted with conventional latching and locking hardware. Joints and edges of all end and side doors are thoroughly sealed against entry of moisture.

The flooring, bolted to the underframe, is ¾ inch five-ply, resin-bonded, fireproof fir plywood, protected on the underside by 24-gauge galvanized steel sheeting firmly bonded to the plywood. The upper surface of the plywood is covered by 12-inch x 12-inch vinyl asbestos tiles with a gray "grain" pattern.

With the exception of the sliding sash units, which are the side windows in and opposite the motorman's cab, all passenger area windows are stationary, single panes of toughened safety glass, mounted in rubber mouldings. These rubber mountings are secured in openings in the car sheathing and in eggshell colored Royalite laminated plastic mouldings, with gloss finish, which make up the individual interior window-frame units. The motorman's front window is laminated plate glass, installed to slope inward toward the top to reduce glare and reflection to a minimum. There is an air-operated windshield wiper.

● **Bright colored interior.** The car interior is designed to be attractive, functional, and easy to maintain and clean. Arborite laminated plastic panels, in ivory stardust with gloss finish, are used for side and end linings of the passenger area, and for the cab door, cab side and rear walls. Side ceiling panels, of the same color, have a semi-matt finish. The center ceiling paneling, in a fawn color, also has a semi-matt finish. Components of the ventilating system mounted in the center ceiling have a matched enameled finish. Edges of paneling are hidden by aluminum clip mouldings attached to the supporting structure.

Fawn-colored Arborite panels, with a gloss finish, form the wind screens at seat ends adjoining the side doors. Extending from tops of wind screens and from the inboard end of transverse seats are stainless-steel stanchions running to the ceiling. Longitudinal hand rails are attached to the ceiling above the longitudinal seats. Interior faces of the side doors are painted with a highly

scuff-resistant plastic paint to match the door carriers. Interior faces of the end doors are painted egg-shell.

There are both transverse and longitudinal seats. Stainless-steel seat frames and supporting pedestals of both types form reinforced integral units which are arranged to fasten securely to the car floor and to the side walls. Arm rests are stainless-steel tubing. Transversely mounted seats accommodate 36 passengers in groups of two, four and six. Forty-seven passengers can be accommodated in the longitudinal seats. Grey and blue cushions and backs have vinyl-fabric upholstery, moulded foamed latex padding. The plywood bases and upholstery are flame resistant.

Front faces of the longitudinal seat bases are equipped with louvers for distributing warm air from the heating system. Insulation prevents undue transmission of heat to the seat backs, cushions and framing.

● **Fluorescent lighting.** Glare-free, indirect illumination of the car interior is achieved with two rows of fluorescent light fixtures running the length of the side ceilings. The light is diffused through translucent lenses on which back-lighted transparent car cards and conventional poster-type cards can be displayed. Light is also diffused above the fixtures to the ceiling and below to the walls and floor. The 600-volt, 400-cycle ac for powering the Slimline tubes comes from the motor-alternator set under the A car.

There are 36-volt dc emergency lamps above each end door and in the fluorescent light fixtures above each side door which automatically provide illumination in the event of a fluorescent lighting failure. Main light switches are located in the cab of each A car only for controlling lights in both A and B cars.

Toronto temperatures range from −20 deg F to 95 deg F, with occasional intervals when the thermometer tops 100 deg F. Relative humidity ranges from 20 to 100%. Heating and ventilating systems are designed to maintain air temperature inside the car at acceptable levels.

The car-heating system utilizes traction and dynamic brake waste-heat recovery arrangement with 24 kilowatts of auxiliary electric heaters. Early calculations and subsequent service experience have demonstrated the economy of waste-heat recovery.

When interior temperature drops to 60 deg F, air from inside the car is drawn by fans from outlets in the body to transfer ducts underneath the car. Here the heating system is combined with the forced cooling of traction resistors. This serves to raise the temperature of the ducted air; auxiliary

(*Continued on page 36*)

TRANSIT IN CANADA

# Carbuilder assesses transit's future

**Hawker Siddeley Canada is busy determining its role and potential in today's rapidly growing market for passenger cars.**

With production of 164 lightweight Toronto subway cars in full swing at the Fort William, Ont., plant of its Canadian Car Division, Hawker Siddeley Canada Ltd., is busy assessing its future as a builder of passenger-carrying rail vehicles.

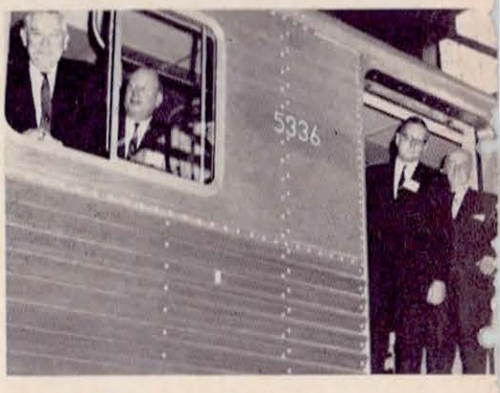
The Hawker Siddeley position as a freight-car builder and railway component supplier in today's dynamic Canadian economy seems a firm assurance of good long-term prospects in the railroad field. But what about passenger cars?

In a nation of 20 million with presently only two cities of truly metropolitan size (Montreal and Toronto), it will obviously take more than domestic rapid-transit requirements to assure much passenger-car volume for years to come. Even with Canada's population explosion, the vast spaces of North America's largest nation (in terms of land area) will probably confine real megalopolitan sprawl to portions of the Montreal-Toronto-Windsor corridor for the next few decades.

● **In the meantime?** What is the function and future of an organization with capabilities in the design and construction of passenger rail cars in today's and tomorrow's Canadian market? W. B. Boggs, vice president of Hawker Siddeley's transport equipment group, has often pondered this question.

"Maybe Canada's proximity to the U.S. will enable Canadian cities to learn from the mistakes of American metropolitan areas with their almost universal emphasis on automobile transportation," Boggs told Railway Age recently. "If Canada's cities do appreciate this folly—and there is already evidence that some do, it could mean consideration of rapid transit much sooner than it has been considered in U.S. cities of comparable size."

● **Edmonton looks ahead.** L. G. Main, general sales manager-railway equipment, cites Edmonton, Alta., as an example of a Canadian city already deeply concerned with 21st Century transport problems. Even though its oil-spawned boom is driving Edmonton's population up faster than that of any other major Canadian city (91% in the decade ended 1961), it has not yet quite reached the half-million mark. But rapid transit is solidly in the picture with Edmonton's city planners.




**INSPECTION** of first TTC car at Ft. William was made (from left) by TTC Chairman R. C. Day, Hawker Siddeley's L. G. Main and W. B. Boggs, and C. S. Doupe, Canadian Pacific traffic manager, who arranged for cars to move piggyback-style to Toronto on special CP cars.

Rearrangement of railroad facilities in the Edmonton area to meet today's conditions offers the possibilities of vacated rights-of-way into the center city. The importance of preserving these channels for future mass transit facilities has led to studies of transit in Edmonton well ahead of Winnipeg and Vancouver, the other cities rated as good candidates for future rapid transit.

● **Suburban-car boom?** Montreal, moving to preserve the present electrified suburban service of the Canadian National, should be a market for new electric multiple-unit commuter cars. Toronto's recently announced suburban service experiments, which will involve a completely new operation over the east-west main line of the Canadian National, is to require 48 locomotive-hauled coaches by next

year (RA, May 31, p. 105). If this test, financed by the Province of Ontario, proves successful, it could eventually involve orders for many more cars to run on other railroad lines radiating from Toronto.

Authorized and projected line extensions will obviously bring the Toronto Transit Commission back into the car market during the next few years. Hawker Siddeley Canada has already contracted with Expo 67, the Montreal World's Fair now two years away, to provide a completely new $12-million transit system for movement of fair-goers on the grounds—a series of connected islands in the middle of the St. Lawrence River (RA, Sept. 7, 1964, p. 13).

● **Delivering the whole package.** "Our participation in the Expo project," notes Main, "may have real implications for us. For the first time, Hawker Siddeley Canada will be delivering everything for a transit system from the roadbed up."

Such a "package" deal for a 3.5-mile conventional double-track duorail system with 40 lightweight air-conditioned cars is well within the capabilities of the sprawling, diversified industrial complex which is today's HSC. While British financing has had a role, the HSC organization is thoroughly Canadian in management and outlook.

The Transportation Equipment group includes the Trenton, N.S., operation (former Eastern Car), a major builder of freight cars and producer of 95% of Canadian railway axles; the Canadian Steel Foundries Division, largest foundry in Canada and a major producer of railway castings; and two Canadian Car Division plants, including the Ft. William facility where the Toronto transit cars are being built. The Transportation Equipment group also works with associated Canadian Steel Wheel, only producer of forged-steel wheels in Canada, and Dominion Steel & Coal, one of the nation's major makers of rail and track fittings.

Another group, Hawker Siddeley Engineering in Toronto, also was part of the team producing the TTC car design. This group of engineering specialists, organized when Hawker Siddeley predecessors were deeply involved in aircraft design, continues to function as a consulting engineering organization. In the design of TTC cars, for instance, they teamed with Canadian Car designers.

The teamwork involved in the TTC order was noted by T. J. Emmert, the firm's president, just over a year ago. He pointed out that, although the Ft. William plant would build the cars, "No less than five of Hawker Siddeley Canada's divisions and subsidiary companies were involved in the preparation of our bid."

● **Old-timer with young ideas.** Canadian Car has been building railway equipment for over 55 years. Divisions of the company have produced over a quarter of a million cars. The TTC order, according to President Emmert, has been "a source of particular satisfaction to our engineering and manufacturing management. They were the first to envisage the longer subway cars in use today and actually started design work in 1958."

Emmert adds that a full-scale mock-up of the company's new concept was demonstrated to TTC officers during a visit to one of the company's Montreal plants in 1959. "Actually," says Vice President Boggs, "the order represents a lot of money and a lot of effort over a long period of time which is only now paying off. It is really remarkable that it could be sustained through changes in Canadian Car management and through the ups and downs of Canadian carbuilding."

● **Keeping costs low.** But sustained it was. As a result, Toronto riders are today getting the world's longest transit cars with the lowest weight-space ratio ever achieved and at a cost of well under $100,000 each, the least expensive such vehicle delivered in North America in years.

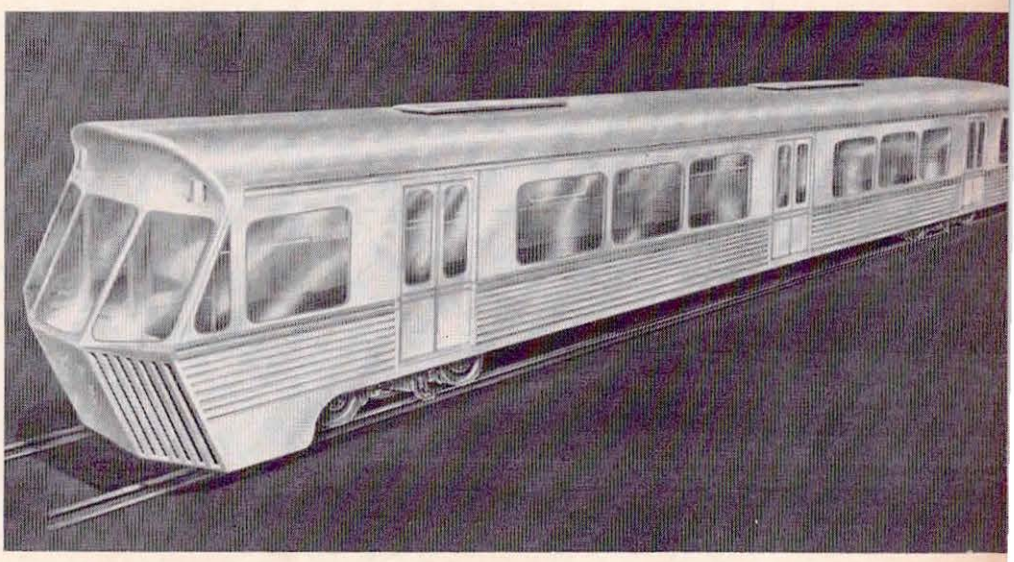
Is it as light as it could be? "Our present aluminum structure seems to be about as light as we could go," says Main. "We could look for further significant weight reductions only in components such as hollow axles and aluminum trucks."

"It is important to stress the responsibility of suppliers in cutting the weight of transit cars," adds Boggs. "Teamwork extends beyond our organization in such an effort. Actually, Hawker Siddeley probably has direct control of less than half of the weight and cost of vehicles such as the TTC cars."

● **The potential market.** With current production culminating seven years of design and selling, what more can be done with the lightweight car? It will be the basis for the 40 cars to be delivered for the Montreal World's Fair operation.

Because of the car's large cross-section and great length, its greatest potential is for as yet unbuilt transit systems. Even Toronto's system built in the early '50s took some shaving to provide clearance for the big cars. Export possibilities are being watched closely, although competition is tough. And even future domestic Canadian transit needs could be filled by other builders in Canada.

The possibility of building cars based on the TTC design for suburban service on railroads is looming in Hawker-Siddeley planning. The apparent interest of the Canadian National in radical passenger equipment which would make possible ultra-high-speed intercity train services also represents another potential for the Canadian Car design. Such suburban and intercity services were apparently those referred to by Boggs when he pointed out that the basic transit-car structure has possibilities in other areas, adding that "it would require new concepts on the part of operators for its value to be realized fully." ■



**FOR MONTREAL WORLD'S FAIR**

Car for on-grounds transportation will be based on TTC design. The 40 cars ultimately will go into regular service somewhere in Canada.

# Railroad superintendents

**This week's meeting of the American Association of Railroad Superintendents will spotlight five areas where the responsibilities of the operating officer are more sharply pinpointed than ever before: operations and service, maintenance, economical operation, administration, and community relations.**

Operating officers from all over North America are heading toward St. Louis this week. They are gathering for the 69th annual meeting of the American Association of Railroad Superintendents June 15-17, an event one wag described years ago as the time of the year when railroad superintendents find out *why* they worried last year and decide what they will worry about this year.

AARS worries have been a good blueprint of the industry's woes and problems for 70 years. AARS men at St. Louis this week will hear committee reports on freight car utilization, the growing loss and damage problem, national work rule changes (RA, May 10, p. 10), discipline, the need for sales-operating cooperation and, inevitably, the changing role of the superintendent in today's rapidly changing railroad operations. They will also stake out areas to worry about next year—the subjects of committee reports in 1966.

Several hundred operating officers at the AARS meeting this week will themselves reflect some of the profound changes sweeping the industry and transforming the nature and quality of railroad transportation. As Committee Report No. 2 (The Changing Role of the Superintendent in Modern Railroading) says, the modern superintendent, while no longer "king" of all he surveys, is a man with more complicated chores over greatly increased territory. He is also a man whose performance is being measured day-by-day by data and indexes available to top management that were not even dreamed of in the days when the "super" wore his watch at the end of half-a-yard of gold chain stretched across his vest and, in effect, ran a railroad complete with traffic department, accounting department, engineering department and other functions whose data output was the only guide to how good the "super" really was. With these yardsticks all under his control, an old-fashioned division superintendent could hardly be made to look bad so long as he managed to move cars from one end of his division to the other.

● **Authority vs. responsibility.** Chairman W. L. Butz (Pennsylvania superintendent at New York) and his committee investigating the changes railroad companies are making in the post of division superintendent divided their report into five areas where change has been great. The report noted that changes have been great in responsibility for operations and service, maintenance, economical operation, administration and community relations.

## The broad view

Unlike the old-time super, whose main role was to move traffic across his division—yard to yard—in the manner that best suited his particular division and style of operation, the modern superintendent worries about problems originating and terminating far from his division's boundaries. "The process of pre-classifying cars for far-off points," notes AARS Committee Report No. 2, "was probably the first major crack in the old-time super's empire." Superintendents, willy-nilly, had to think big and consider the needs of neighboring divisions, the needs of the region and the entire system.

"The possibility of quick, unilateral decisions started to fade. The economic decline of the industry likewise emphasized changes in the super's thinking about traffic-delaying process of unnecessarily handling and rehandling of traffic on his division. No longer was he inclined to move anything, any time, regardless of its cost. He held for high-tonnage trains. What local savings he might effect by curtailing operations his company often lost in traffic because of delays. The pendulum continued to swing from one extreme to another. Fortunately, as the super became more astute in his responsibility to get and retain traffic for his company and in the economics involved, the pendulum swung in a diminishing arc." And, continued the report, the process created today's generally faster and more reliable service—produced in a comparatively economical fashion.

● **Five basic changes.** Really important aspects of change central to the post of railroad division superintendent were enumerated by the committee report:

—Increasing pressure for the super to assume more responsibility for his railroad's operations and interests within his division's boundaries—despite a decreasing capability for acting unilaterally for the sole benefit of his division. "He must expend more effort as an arbitrator," is the skillful summing-up of the report for the tug-of-interest that takes so much of a modern superintendent's time.

—Increasingly, the superintendent is responsible, in conjunction with the sales department, for producing service that is economically competitive. "He must be increasingly market-conscious in developing and producing service that is competitively desirable to the shipper and economically remunerative to his company."

—The superintendent has to have a cold eye for red-ink operations. "No longer can he look only at division payroll costs. He must be increasingly analytical of his operations with respect not only to the division but also the company's entire operation."

—Superintendents are being looked-to for finding imaginative solutions to problems afflicting present operations.

—Superintendents will have to expend more effort teaching and in leading. "Today's superintendent must operate his division with an organization which has less depth in age and experience," is the report's somber appraisal of one of the great changes that has swept through the industry in the last two decades. "No longer can he make a simple decision to a problem and expect its fulfillment without further explanation. No longer is the desire and willingness of employees to do a good job the rule rather than the exception. No longer is he blessed with a staff consisting primarily of seasoned, experienced supervision."

● **How about authority?** In sum, says the report, the superintendent's authority has had some of the flamboyance taken out of it because of the changes that have come about in railroad operations, but it is still there

# —and their changing role

—to be used more cautiously as problems become more complex and challenging.

But there is even more responsibility —every morning—when the general manager and/or the general superintendent calls to "review" the deficiencies of the previous day's operations.

AARS members will hear a thorough analysis of a problem that many railroad experts feel is the number one way to attack car shortages—maximizing freight car use. Committee Number 5 (Freight Cars—Control, Handling and Maximum Utilization) and its chairman, W. W. Stinson, assistant superintendent for the Canadian Pacific at Toronto, will present some cogent reasons why superintendents need to worry about the fact that revenue freight cars in 1964 produced only 19.87 trips per year.

● **A four-way focus.** Committee Number 5 concentrated its report on four aspects of the car utilization problem: use of computers in analyzing and controlling freight-car utilization; the proper application of car-service rules; the need for keeping cars on the move, and the cooperation of shippers in car handling.

The report describes several systems utilizing computers that are in use by railroads to control the use of equipment and to provide shippers with valuable car-movement information. Though such systems are widespread, they lack uniformity and suffer for lack of truly universal industry data as imput for the computers. "All reports require quick, accurate information from the field to be of positive value, and an item of interest in this regard is a system of automatic car identification such as is being studied now under the sponsorship of the Association of American Railroads," notes the report.

● **Enforce rules.** Observing of car-service rules for the avoidance of empty-car mileage and excessive per diem expense is cited by the report as important to the struggle to improve utilization ratios. With the introduction of multi-level per diem rates early last year, observance of car-service rules is more important than ever if railroads are to achieve substantial economies in car handling.

AARS members were urged to accelerate education of yard and operating forces in the rules and in the handling of the "bewildering array" of specialized equipment. The task is too important to be left to casual, "on-the-job" training—and the committee recommended that railroad transportation departments organize teams of experts on each phase of car service and utilization and periodically send these experts into the field to instruct and train employees. "It may also be feasible to require certain groups of strategic employees to pass periodic examinations in car service rules in the same manner as running trades are required to pass examinations in the operating rules," noted the report.

● **The super key.** Also citing the monthly bulletins that some railroads issue as ways of increasing employee understanding of car service rules and demurrage rules, the report emphasized the fact that the superintendent is the key man to the utilization problem. "The superintendent and his supervisory staff, by example, must show their interest in car-service rules by their determination that these rules be concientiously applied by the staffs under their jurisdiction."

Superintendents also have a good measure of control over two key activities that contribute substantially to inefficient use of cars: implementing

(*Continued on page 38*)

## Shippers and car supply: An operating man's view

AARS Committee Number 5 listed ways in which shippers could do their bit toward increasing car ultilization and thus maximize the number of cars that are available for loading at any given time. Said Committee Number 5: "Without cooperation from the shipper, the best car-control program is ineffective. In many cases the cooperation of shippers is not enlisted due to a fear that the mere mention of demurrage or a tightening car supply will produce an immediate diversion of traffic to a competing form of transportation. With few exceptions, shippers are willing to meet with railroad men and discuss mutual problems. However, we cannot expect the shipper to accede to requests such as reducing his ordering time for empty equipment unless our own house is in order. We must be able to offer shippers dependable and scheduled handling of loads and return of specialized empties, prompt securement and placement of ordered empties and dependable switching service before we can solicit his cooperation." But, when a railroad can secure such cooperation, it can include:

—Reduction in preloading of cars, which will reduce car days spent in industrial sidings.

—Closing of doors on box cars and gates on covered hoppers to prevent damage leading to unnecessary shopping.

—Shippers should not demand unnecessary cleaning of equipment nor expect railroads to provide garbage disposal service.

—Eliminate equipment abuse caused by heating cars, sledging and vibrating.

—Loading and providing billing promptly after equipment is placed.

—Releasing equipment promptly after unloading.

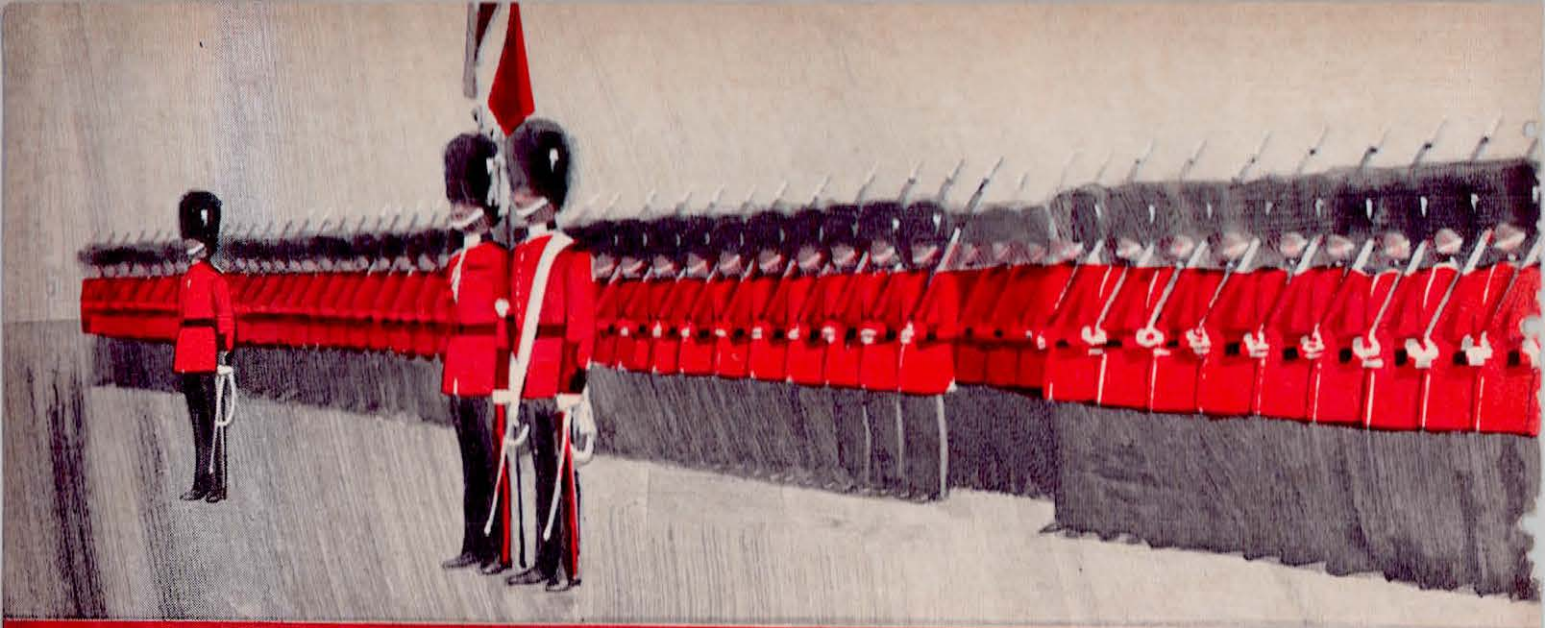
—Application of car-service rules in loading foreign equipment in the proper direction.

—Scheduling of inbound shipments to avoid back-up of cars at destination.

—Ordering the right class of equipment for the commodity, to reduce contamination of high-class equipment.

—Extension of weight agreements to eliminate delays caused by spotting cars at scales.

—Traffic forecasting, so that railroad officers will know enough ahead of time demands so they can, to whatever extent possible, be met.



# NEW TORONTO SUBWAY CARS CAN CARRY 300 ROYAL GUARDS OR 300 PASSENGERS ROYALLY

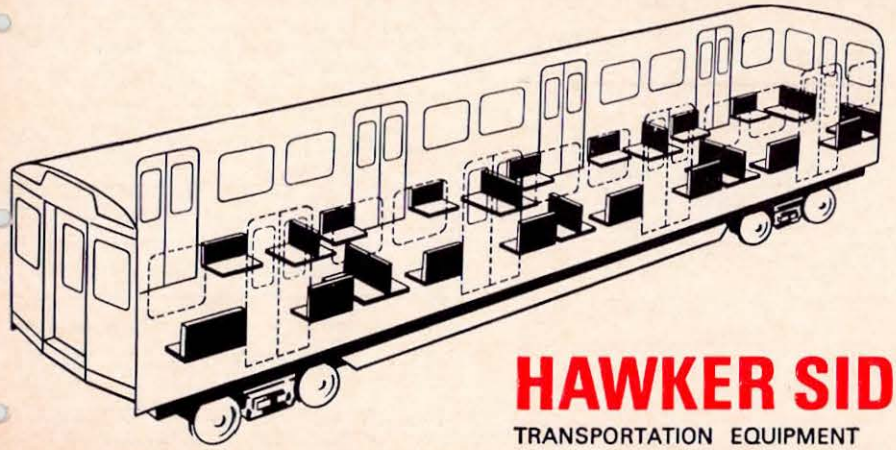
The world's most advanced subway car will soon see service as part of Toronto's expanding subway system.

A reflection of the vast experience, engineering skill and technical competence of Hawker Siddeley Canada Ltd., is evidenced in this new lightweight aluminum car.

Designed to carry the maximum passenger load, this car is lighter than any other car of comparable size. It has been specially designed for use on the Bloor-Danforth Line of the Toronto Transit Commission.

Each car weighs only 56,000 pounds and comfortably carries 300 persons, thus achieving the lowest cost-per-passenger yet attained in North America.

Hawker Siddeley engineering skill and experience makes this all new, superbly fabricated subway car one of the most modern in the world. Passengers will experience the ultimate in travelling comfort the moment they step aboard this modern, new passenger unit.



The new Toronto subway car is capable of carrying 300 persons, 83 seated. The seats are transversely and longitudinally mounted. Inside the car, glare-free, indirect lighting is provided by two rows of fluorescent light fixtures running the length of the side ceilings. The light is diffused through translucent lenses on which back lighted transparent car-cards can be displayed.

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**AN ARTIST'S IMPRESSION** of the new Victoria Line trains

# London's automatic trains

Automatic train operation is still regarded cautiously in some quarters—but not in London. When the 11-mile Victoria Underground line comes into service in 1968, the London Transport Executive intends it to be operated entirely this way.

LTE already has three years of experience under its belt in this field: the first operating tests go back to 1962, when a train equipped with automatic driving controls began dry runs. Trackside equipment was installed along a one-mile stretch of the District Line in an outlying section of the metropolitan area.

Proceeding very carefully, LTE made sure all the bugs were taken out before trying out ATO under even restricted service conditions. In 1963, the track equipment was transferred to another limited portion of the same line, and the prototype train made some routine service runs, with the motorman switching over to automatic driving control on this short stretch.

Tests aimed at refining the equipment's braking and acceleration characteristics still went on at the first site. LTE, however, felt it was ready to try its wings in a full-scale operation. Fourteen months ago, the Woodford-Hainault line was converted entirely to ATO.

LTE courteously invited me to come out and see what they've done there. The Woodford-Hainault line is not a big one or a busy one—it's a self-contained four-mile branch, far from the hub of the system. The point is that it offers every type of curve and grade likely to be encountered anywhere else on the LTE network—a perfect proving ground under regular service conditions.

Four four-car trains operate over the line, making three intermediate stops for a total running time of 11 minutes end-to-end.

The motorman pushes a button to close all doors—merely the first of several conditions that must be satisfied before the automatic driving mechanisms can be actuated. Others are that the signaling code must read clear; the cab window must be no more than six inches from closed position; and air brakes must be fully operative for power to be supplied to traction motors.

There are twin starting buttons to be pressed simultaneously, so that a fault in one wire doesn't cause a false start.

Acceleration is smooth, and the motorman folds his arms as the train moves up to operating speeds of 25-30 mph; they're still folded while the train slows down for curves and grades, and then comes to a stop at the first station.

(Yellow chalk marks on the platform mark off pre-set points where the train will stop. LTE allows a 7½-ft margin of error on this, but in practice, the margin is considerably less.)

Who's doing the driving? Off-train equipment housed in relay rooms at each of the stops. By way of coded track circuits, automatic driver command signals are picked up through coils mounted at the head end of the train. An electronic governor compares pre-set speed with actual speed, and switches motors in and out and applies brakes as required.

The signaling system involves three operating codes, only one of which is for clear track. An absence of code causes the brakes to be applied automatically. Just above eye level in the cab is an illuminated panel telling the driver which code is in operation.

**—Joseph Asher**

# ICC rejects tough track car rules

Track cars won't have to be equipped with power brakes or automatic couplers.

The ICC has so ruled in reporting on the case it instituted to comply with a 1957 decision of the United States Supreme Court. The court held that a track car and push truck, coupled together, were vehicles covered by the Safety Appliance Acts.

• **Brakes and couplers.** Since those acts specifically require power brakes and automatic couplers on cars which they cover, the Commission was told it had no choice. This advice came from its own Bureau of Safety and Service, and from unions representing railroad employees. The railroads, represented by the AAR, opposed both proposals as unduly hazardous.

Examiner Henry J. Vinskey, who heard the case (No. 32248), disagreed with the positions taken by the unions and Commission bureau. His proposed report recommended what the Commission's decision does, i.e., requires only hand brakes and non-automatic couplers. The latter will meet the requirement if they provide secure attachment and can be coupled or uncoupled without the necessity of men going between the ends of the cars.

The coupler requirement will apply to all track cars. The hand-brake requirement will apply to all motor cars —but only to those of the so-called push cars used to transport persons.

• **Basis of the decision.** Taking note of the evidence indicating that power brakes and automatic coupler might make the track cars more hazardous, Vinskey and the Commission relied on something the Supreme Court said when it held that the Safety Appliance Acts applied. That something was a statement that the Court's holding did not mean that track cars must be equipped with devices not adapted to their safe operation.

The Court's ruling was embodied in a 5-to-4 opinion in *Baltimore & Ohio v. Jackson,* 353 U.S.325. Rejecting railroad contentions that track cars were exempt from the Appliance Acts, the Court found the controlling factor to be the manner in which the vehicles are used. It said the history of the Appliance Acts, and specific language in them, reflected Congressional intent to include "any car" and "any locomotive engine hauling any car." ■

# RAILROADING AFTER HOURS WITH JIM LYNE

LYNE

**PRESS TOUR IN MEXICO**—The National Railways of Mexico recently were hosts to a group of newspaper people from Mexico City on a tour of places in the middle and northern parts of the country, where extensive improvement programs are in progress. According to the news magazine Tiempo, places visited included Aguascalientes, Zacatecas, Torreón and Monterrey.

At Aguascalientes, the visitors inspected the large coach and freight car shops which have been in process of construction since 1963 and which will have a capacity for heavy repairs to 400 freight cars and 24 passenger cars a month. At Zacatecas new passenger and freight terminal improvements were visited.

At Torreón Superintendent David Lucero explained the railways' program to put 200 kilometers of the main line between Mexico and Ciudad Juarez in condition to handle trains at an average speed of 100 km per hour. At Monterrey Resident Engineer Carlos Avalos explained an experimental installation of concrete crossties.

Apparently, the visiting reporters were highly impressed with the tangible evidence they witnessed of the progress the railways are making in improving the speed, quality and safety of their service.

Thus, in Mexico as elsewhere, the railways have discovered through experience that nothing is so conducive to friendly relations with the press as to make it easy for reporters to see the improvements that the railways are making in their facilities.

**THE BEECHING LEGACY**—As Dr. Beeching leaves the leadership of the British Railways and returns to the chemical manufacturing business, he leaves behind him a program which—if adequately implemented—should assure the revival and future growth, not only of Britain's railways, but of those of any country which follows the doctor's prescription. As I understand it, what he prescribes is the concentration of traffic on economically located lines—so that the bulk of ton-miles and passenger-miles will be produced at minimum unit cost. By following such a program, maximum railway efficiency will be made available to compete with efficient highway and air transport. It is a rugged job, these days, for railways to seek to compete with less than their maximum efficiency—which means maximum utilization of the best available equipment on the most economical routes.

**OUTGROWN OBLIGATIONS**—I saw the other day where the Georgia Railroad is running a daily (except Sunday) passenger train out of Macon which hardly ever has any customers. The reason the service is continued is that land for the right-of-way was sold to the railroad with the provision that daily passenger service would be maintained, and the railway, of course, observes its obligation.

I recall a well-known railway executive who spent several years of his noteworthy career as a negotiator with local municipalities, endeavoring to ameliorate franchise obligations—which were no longer useful to the towns involved and were highly costly to the railway. There must be, still, a lot of these century-old obligations still in force—which afford little necessary protection to the public, but do use up a lot of railroad money that could be used to greater public advantage. Know of any of them in your territory?

**C. McD. DAVIS, PHILANTHROPIST**—There was a dinner down in North Carolina recently in honor of retired ACL president Champ Davis, as a testimonial to him by friends of the nursing home (cost some $1 million) which he is establishing in his home county, in memory of his mother. At the affair, Mr. Davis revealed that the start of the project dated back some 20-odd years ago, with a bequest to him by an old friend, Walter P. Murphy, of $50,000—which by skilful investment, and donations from other sources, has grown to the sum needed to build the new institution.

Mr. Davis observed that, when time comes to leave the earth, all a man can carry with him is "the record of what we have given to others here." And that donation has been considerable—not just in money, but by the inspiration that all dedicated men pass along to their successors.


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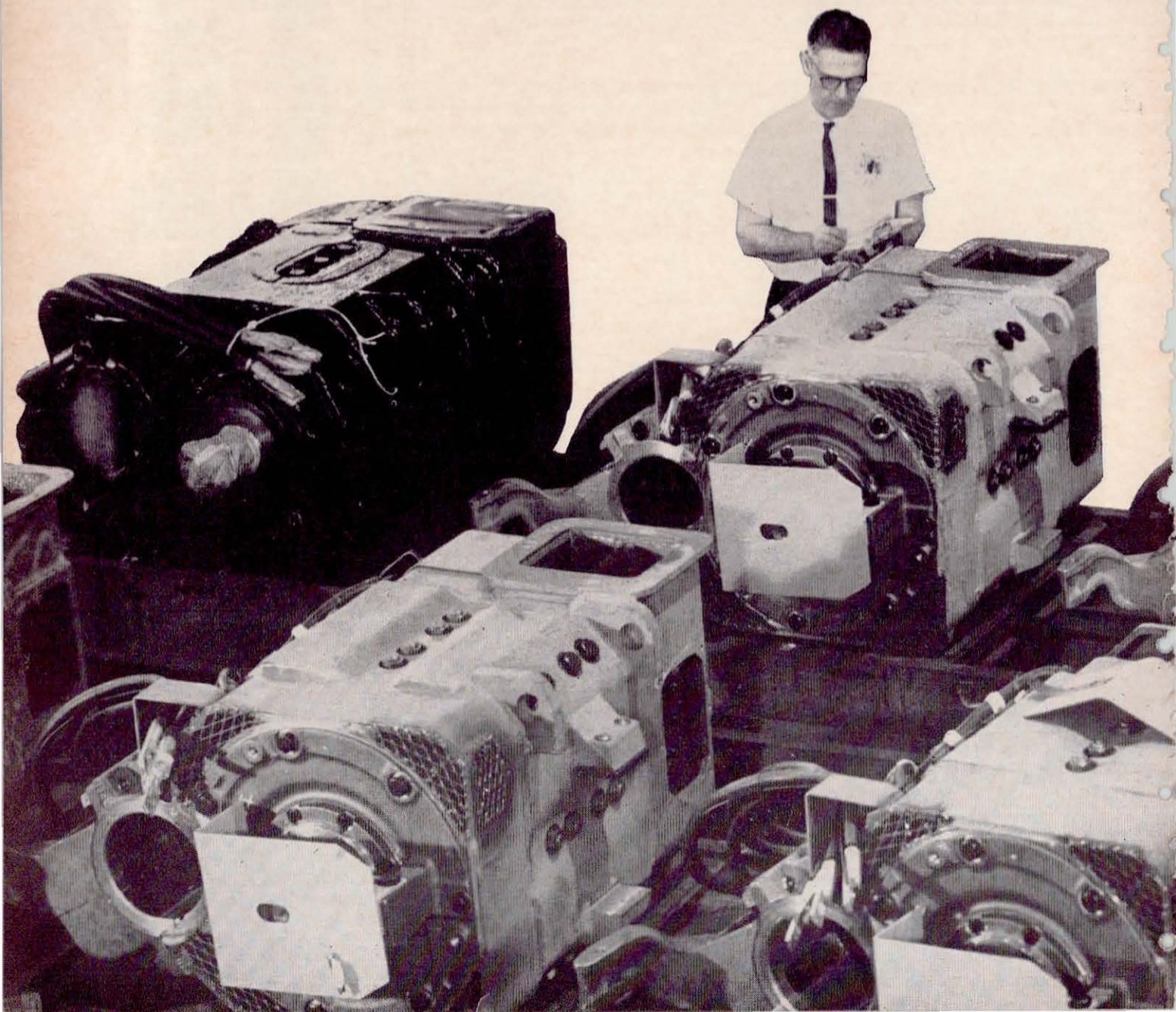

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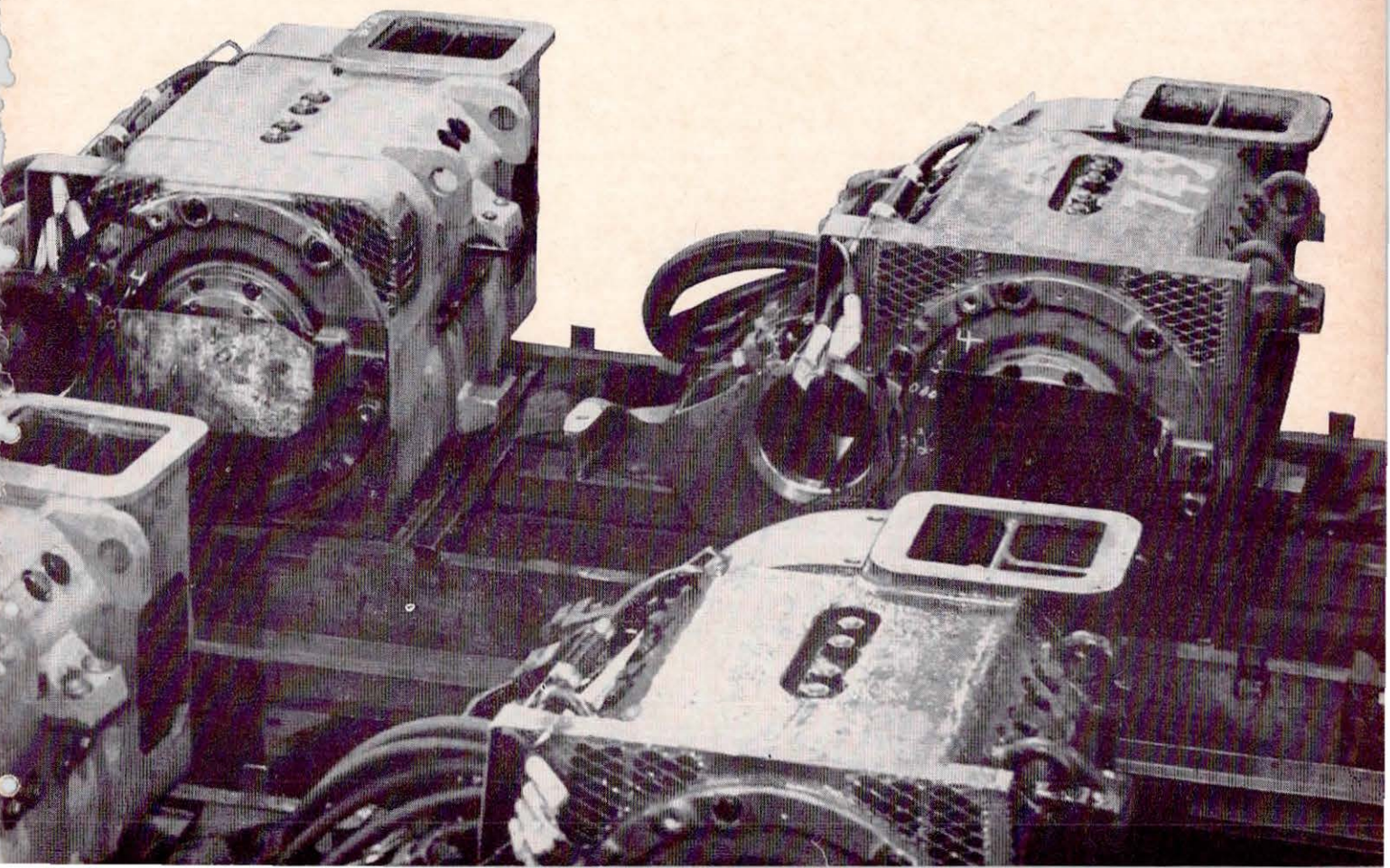
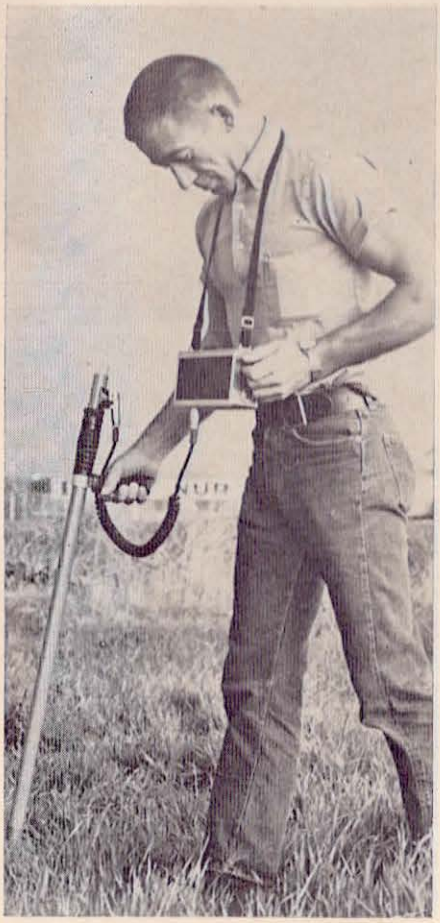
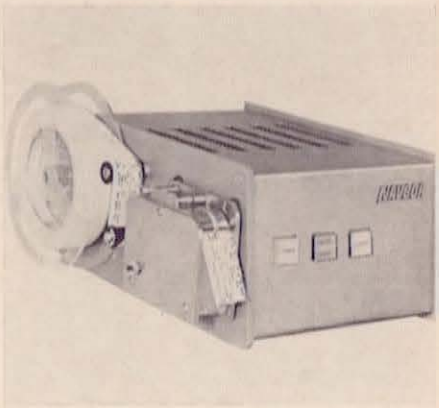


# NEW PRODUCTS REPORT



## Protective Cover (RA-1)

A new protective cover for railroad signal lights is known as Lens-Gard. Precision-made of a new, high impact resistant plastic, these covers are transparent yet protect like metal. In laboratory tests, Lens-Gards proved they would "shed" quarter-pound rocks hurled 75 miles per hour. Easily installed, these covers have no material effect on the intensity of the light beam, do not affect color values, and are ultra-violet stabilized. *Hanlon & Wilson Co.*



## Tape Reader System (RA-2)

Model 1291 tape reader system is a table-top unit which can be used either on-line or off-line for asynchronous reading of paper tape at up to 30 characters per second. The unit weighs only 14 lb. Control circuitry is all solid-state. A patented reel servo system minimizes tape stress, power consumption, and heat dissipation. A special pin-sensing technique permits even badly worn tapes to be read accurately and causes virtually no tape wear itself. *Navigation Computer Corp.*

## Fault Locator (RA-3)

A new portable device, with which repairmen can trace the course of buried communications cable and pinpoint defects from the surface of the ground is a battery-operated system consisting of a 15-lb transmitting unit to generate a pulsed signal through the cable's sheath; and highly sensitive, hand-held probes which can detect these electrical signals through several feet of earth.

A lightweight 3-foot-long probe and a camera-sized receiver unit reproduce the pulsed signal through a loudspeaker. The receiver unit produces a null signal when pointing directly to the energized cable. Moving the probe to either side of the precise course of the underground cable produces an audible signal. As it passes the fault point, the signal strength diminishes sharply to indicate at once the fault's approximate location within 5 to 10 feet. The fault locator will operate for approximately 50 hr on a standard 6-volt lantern battery. *Delcon Division, Hewlett-Packard.*

## Radio Repeater (RA-4)

A new base station repeater provides two-way radio communications between maintenance-of-way crews and radio-equipped trains. The unit consists of an equipment housing containing two complete radio sets operating on different frequencies and a 54-ft Rohn crankup tower. Equipment housing and tower are mounted on a two-wheel automobile type-trailer which can be hauled by a truck or other motor vehicle. *Motorola.*


RAILWAY AGE WEEKLY

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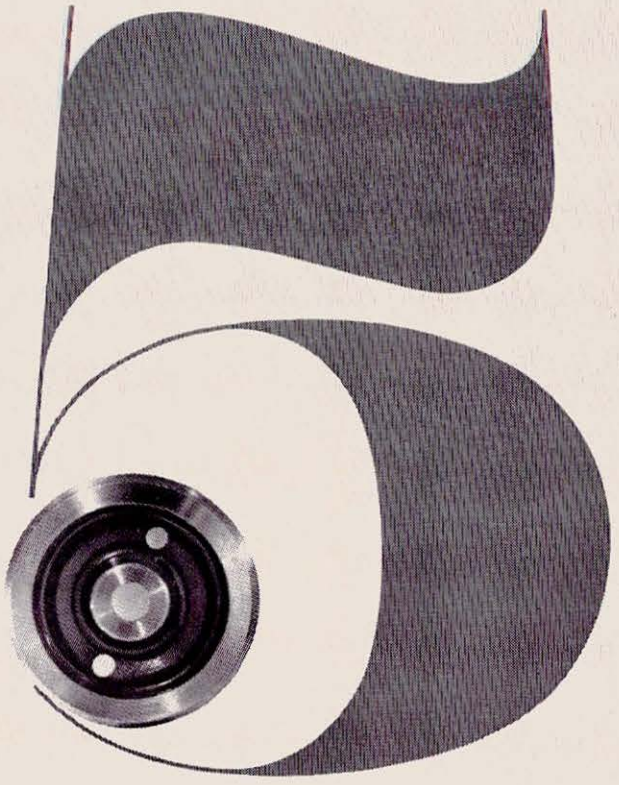

# 5 REASONS WHY THE WORLD ROLLS ON SUMITOMO WHEELS

**1. Quality.** Sumitomo wheels and other rolling stock parts are unsurpassed for quality. Sumitomo guarantees it. Our's are the strictest quality controls in the industry.

**2. Dependability.** Wheels are solid rolled for safety, longer life, lightness, and ease of repair.

**3. Choice.** Sizes from 550mm to 1,300mm.

**4. Availability.** Our fully automated plant turns out rolling stock parts to your specifications faster than any other producer can. Nobody delivers faster than Sumitomo. And Sumitomo wheels can be made to conform to any National Standard. Yours included.

**5. Price.** Sumitomo rolling stock parts are made at the world's largest wheelmaking plant. The equipment is up-to-the-minute modern and fully automated. This means we save money in production. You will find these savings in our prices. Check them before you buy.

These are the reasons why you most probably rode on Sumitomo wheels the last time you rode a train or streetcar.

For more information about Sumitomo's rolling stock parts, write to Sumitomo Metal Industries, Ltd., Higashi-ku, Osaka, Japan. Overseas Offices: New York / Los Angeles / Düsseldorf / Bangkok

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SUMITOMO METAL INDUSTRIES, LTD., OSAKA, JAPAN

Main Products: Wire Rods / Sheets and Plates / Tubes and Pipe / Castings / Forgings / Rolling Stock Parts

# Trucks: Combination air and coil springs

(*Continued from page 24*)
heaters provide extra heating capacity. The heated air is directed by dampers to ducts running beneath the side sills on both sides of the car which, in turn, deliver air to plenums under the passenger seats.

When the interior temperature reaches 63 deg F, or when the air temperature entering the car reaches 140 deg F, the body duct system is closed off from the resistor cooling system by dampers. Air for this cooling is then taken in and dumped beneath the car. A separate electric heater in each motorman's cab consists of two 750-watt elements, individually controlled by a manually operated switch on the cab rear wall.

• **High-volume ventilation.** Each car is ventilated by five series-connected 120-volt dc overhead fans, with a maximum capacity of 15,000 cubic feet per minute. Concentric-ring air diffusers are integral with the fan units. Exhaust air passes upwards through perforated grilles in the ceiling panels between the fan outlets into the overheat plenums and through dampers to outlet louvers on the roof.

Dampers extend the full length of the car on both sides of the roof and are divided into segments by cross bulkheads which form the intake and exhaust plenums for the ventilating system. The dampers are operated in five groups by five electric actuators which operate sequentially. Fan speed and damper action is thermostatically controlled. The fans start running and dampers begin to open when rising interior temperature reaches 70 deg F. As car temperature rises from 70 deg F to 85 deg F, fan speed is automatically increased by resistor control in three steps.

• **Trucks are Dofasco Type DRT-2.** Each truck consists of a one-piece cast nickel-steel frame composed of two truss-type box-section wheel pieces cast integrally with two connecting box-section transoms. Inboard roller-bearing journal boxes in the frame pedestals support the truck through coil springs. Combination air and coil springs positioned in the central opening in each side frame support a cast nickel-steel bolster.

The coil spring located within the air spring carries the 56,000-pound light weight of the car while the passenger load, which may be as high as 45,000 pounds, is supported by the air spring. The air spring, controlled by a leveling valve, produces a low-constant vertical frequency at a nearly constant platform height. Bolster motion is damped by both vertical and lateral hydraulic shock absorbers. Bumper action terminates bolster lateral motion.

On each side of each truck is mounted a top-running third-rail shoe. Traction motors and brake units are also truck mounted.

• **Traction equipment.** The four 125-hp Belgian-built traction motors operate in series and in parallel pairs on the 600-volt dc traction system. The two traction motors mounted on each truck frame drive Spicer right-angle, hypoid gear drive units which are supported by the axles. Gear ratio is 7.11 to 1. Torque is delivered to the axle through a splined sleeve which is pressed on the axle and an internal spline on the quill of the drive. All parts run in sealed oil bath. A torque arm, supported on the pinion end of the gear unit, is attached to the truck side frame through a rubber mounting.

The traction system provides electrodynamic braking of the cars down to a minimum speed of approximately 7 miles per hour. Both acceleration and braking on each car of a train are proportional to the total car weight at that moment as sensed by the air-spring system on the trucks.

The brake system involves an electro-dynamic brake, an electro-pneumatic service brake, a pneumatic service brake, and a pneumatic emergency brake. The electro-pneumatic service brake system monitors the dynamic brake system. When the dynamic brake fades as the car slows, or if it were to fail, the electro-pneumatic brake applies automatically and takes over completion of the stop without noticeable change in braking rate. If the electro-pneumatic brake fails, the pneumatic service brake immediately and automatically comes into action.

Emergency brakes may be applied through the motorman's control, the guard's and passenger's emergency valve and a trip cock. Unintentional parting of the train and rapid reduction of emergency brake-pipe pressure also applies emergency braking. Inadvertent opening or incomplete closing of any side door automatically applies the

*Artist's version of the lightweight TTC car*

The Toronto Transit Commission will put 164 cars in operation on the new Bloor-Danforth subway, now under construction. Sprague heavy duty Air-Push windshield wipers will be used on these new lightweight subway cars which are being built by Hawker-Siddeley (Canada) Ltd. Most leading builders and operators of buses, trucks, diesel locomotives and transportation equipment have standardized on Sprague. They know they can depend on Air-Push windshield wipers and washers to deliver maximum service with minimum maintenance. Write for the complete Air-Push story and the name of your nearest distributor.

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Sprague DEVICES, INC.
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brakes or keeps them on. Air for the braking and spring systems is provided by a compressor powered by a 5½-horsepower motor mounted beneath the underframe of the B car.

The cab end of each car has a Form 29 automatic coupler remotely controlled from the motorman's cab. This coupler, designed for medium-heavy rapid-transit operations, simultaneously makes mechanical, pneumatic and electrical connections between cars. It can be manually operated from track level if desired. There are 32 contacts for trainlined electrical circuits. All automatic couplers on the new cars are designed to couple and operate successfully with 36 cars put in TTC service in 1962. In addition, emergency sets are being delivered to enable the cars to be coupled to cars delivered to the TTC prior to 1962.

The non-cab end of each car has a manually operated coupler which can be operated from track level only. Each pair of cars is semipermanently coupled to make up a set.

The single-handle controller in the motorman's cab is used for regulating both acceleration and braking. Also in the cab, as well as on the window sill opposite the cab, are sets of door control switches for use by the train's guard. Conventional protection against open doors and other conditions is incorporated in all control devices.

Communications equipment which makes possible contact between wayside and trains and between any cab and all passenger areas is installed on all cars. There is a hand set in each cab. The carrier signal for communication between trains and wayside is transmitted through a special high-voltage dc coupler unit connected to the 600-volt dc third rail.

This AM system provides simplex speech communication between train and wayside, or vice versa, and duplex communication between motorman and guard. Passengers may be addressed either by the motorman or from wayside through five speakers mounted in the ceiling of each car.

The motor-alternator set which supplies current for lighting also has a separate 37-volt dc generator mounted on the same shaft. This dc current is used for all controls and for charging the 65-ampere-hour nickel cadmium battery.

The $16-million order, largest ever placed by Toronto Transit for subway cars, has involved 31 separate Canadian suppliers. More than 90% of the equipment is supplied by Ontario companies at a cost of approximately $11 million. Approximately 400 persons are directly involved in the fabrication and assembly of the cars at Canadian Car's Fort William plant. ■


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*The CSW forging and rolling process has been proved to give railway wheels greater fatigue strength, tensile strength and resilience by changing the cast structure into a homogeneous, refined and correctly oriented grain structure. The result is a light weight wheel with longer life and appreciable savings in operating costs. One-Wear, Two-Wear and Multiple-Wear heavy duty wheels are available for every type of freight car, passenger car and diesel locomotive in service on Canadian and American railroads.*

*In use on all types of subway cars operated by Toronto Transit Commission*

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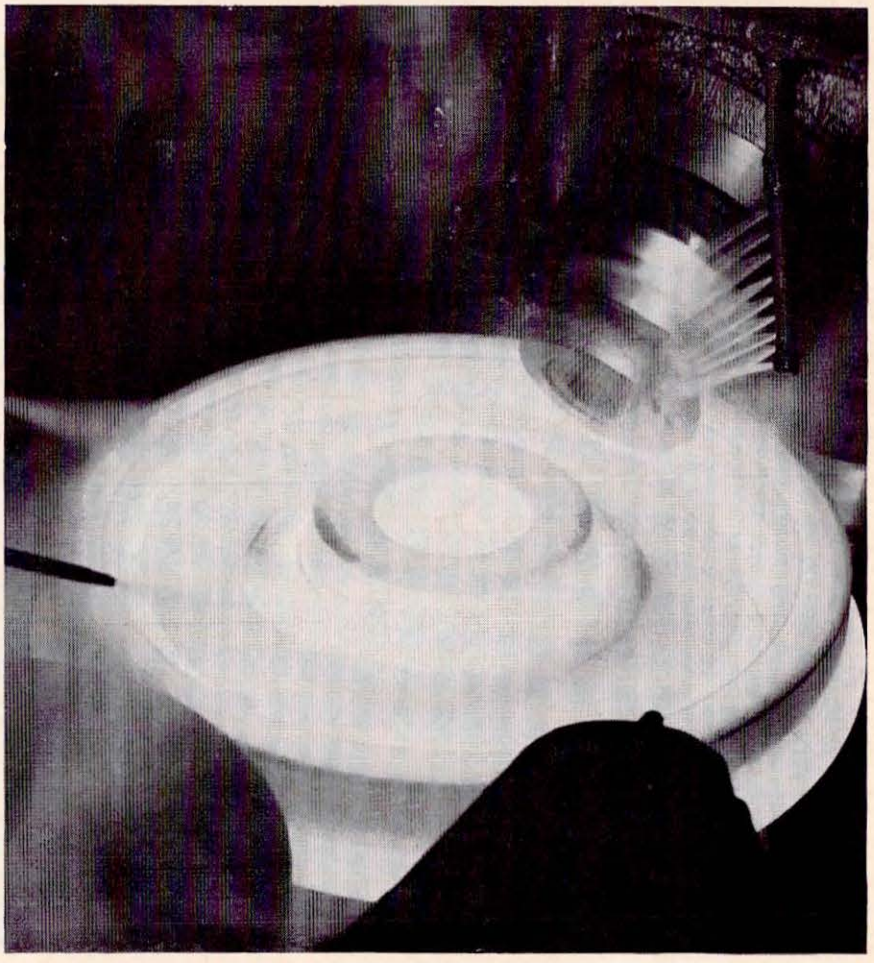

# 'Holding cars for tonnage is a costly anachronism'

(*Continued from page 27*)
and executing the entire process necessary to clean, repair and upgrade cars—and terminal handling.

Surveying the industry, the committee concluded that "the increased use of modern car-repair facilities, such as the widely used "one-spot" concept, has improved car utilization by decreasing time out of service for repairs and also by decreasing the bad-order car ratio.

"Another encouraging development is the application of the same technique to car cleaning . . . . the 'one-spot' system for car cleaning employs mechanized equipment to dispose of refuse from the car, vacuum the car interior, wash the interior and, finally, can upgrade the interior if necessary. Car-cleaning time and its attendent yard handling to and from cleaning tracks is greatly reduced."

● **Terminals next target?** To no one's great surprise, the Car Utilization committee's report will concentrate on problems involved in terminal handling of cars—an area that has been, relatively, neglected even while the industry vastly expanded its capabilities with motive power, signalling, communications and electronic yards.

Somewhat acidly the report notes, "The practice of holding cars, both empty and loaded, to accumulate tonnage is an anachronism in today's competitive transportation field. Although from the short-range point of view, the handling of long, maximum-tonnage trains may appear attractive, too often the savings are more than offset by the car days lost accumulating the tonnage and the revenues lost from shippers' dissatisfactions."

Terminal handling, the report notes, was neglected for years—but some railroads are now bringing industrial-switching operations under tight control. "One of the most interesting such systems to be developed is the inventory control system. In this operation an industrial yardmaster is placed in a control center—controlling via radio a group of radio-equipped yard engines. A clerical staff working directly with the yardmaster, on a round-the-clock basis—and working from switch lists and instructions given by the yardmasters to the crews—maintains a prepetual inventory of all cars on each industrial track in the area. Shippers phone all car-order requests and switching instructions directly to the control center, from where they are relayed to the crews. This system produces prompt dispatch of all cars to and from industrial areas, efficient handling of cars within the industrial areas and better service to the shipper on a car-dispatch, switching and car-order basis. In conjunction with this program, industrial switching is programmed so that, to the greatest possible extent, switching service is provided on a 24-hour, seven-day-per-week basis, thus ensuring a smooth flow of cars and proper utilization. Control records produced as a by-product of the inventory control system provide the superintendent with an up-to-date picture of car detention and handling in each industrial area."

● **Toward 'sharing' effort.** A plea for interdepartmental sharing of responsibility between operating and sales officers has become almost a standard feature at AARS meetings in recent years. Committee Number 1 (Joint Responsibility of Operating and Traffic Officers) gave a good set of reasons why such interdepartmental expertness could pay off handsomely for railroads—if it is ever achieved.

Committee Chairman D. F. Rehl (freight sales manager for the NYC at Cleveland) and his men gathered reasons for joint responsibility from 51 officers—ranging from presidents to salesmen—that indicate there is no particular philosophical difference between top operating and traffic officers when it comes to assessing the desirability of sales-operating integration. Twenty-seven operating and 24 sales officers from 18 railroads listed these objectives as "joint responsibilities":

—Maximizing net profit from traffic.

—Interdepartmental cooperation on all problems.

—Joint calls on customers.

—Effective and continuous communications.

—Developing and meeting customers' needs.

—Creating and maintaining a favorable public image.

—Maintaining a high-level rapport with customers.

—Scheduling efficient and dependable trains and services.

Railroading, notes the report, is increasingly service-oriented. Shippers demand and get fast and dependable service. Teamwork and active cooperation between operating and traffic officers at all levels will continue to generate additional traffic and accelerate the resurgence of American railroads in the direction of maximum profits. This adds up, says the report, to one simple fact, "cooperation is a must between traffic and operating officers."

● **The lost billion.** AARS men at the St. Louis meeting June 16 will


# NEW FLAME TOOL CUTS ROCK REMOVAL COSTS

Costs of removing rock from roof of a Boston & Maine railroad tunnel were substantially reduced by using a new rock-cutting tool.

Fed by compressed air and inexpensive fuel, the RoKeX flame-cutting tool produces a high velocity, high temperature flame, by which the rock flakes off in small chips (no melting, no burning). This "spalling" action is rapid and continuous in hard rock. After treatment the remaining rock has a clean, smooth, unshattered surface.

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## Report on freight car flooring tests at Lehigh University:

# Dura-Wood supported up to 82,500* pounds in lift truck wheel loads

### TESTS SUPPLY VALUABLE DATA ON FLOOR CONSTRUCTION

The remarkable strength of Dura-Wood Laminated freight car decking has again been proven in special tests in the engineering laboratory of a leading university.

Here Dura-Wood proved capable of sustaining lift truck axle loads far in excess of normal 60-70,000 pound maximums.

These *actual* tests (*not* just mathematical calculations) are among the most comprehensive ever made on laminated wood flooring for freight cars—the *first* using a simulated boxcar with standard underframing. Resulting data answers important questions on proper thickness of floors and design of underframing for varying weight loads. (Use coupon to get this information.)

Construction of test floors and underframing conformed to Freight Car Design recommended by the Association of American Railroads. Tests were observed by representatives of ACF Industries, Incorporated, and Pullman-Standard.

**Ultimate wheel load breaking point of 2-3/8" Dura-Wood with 3" I 7.5 stringers.*

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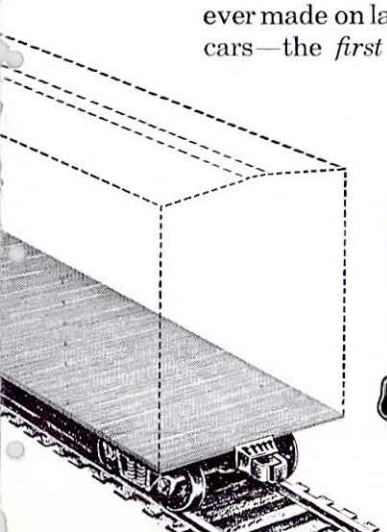

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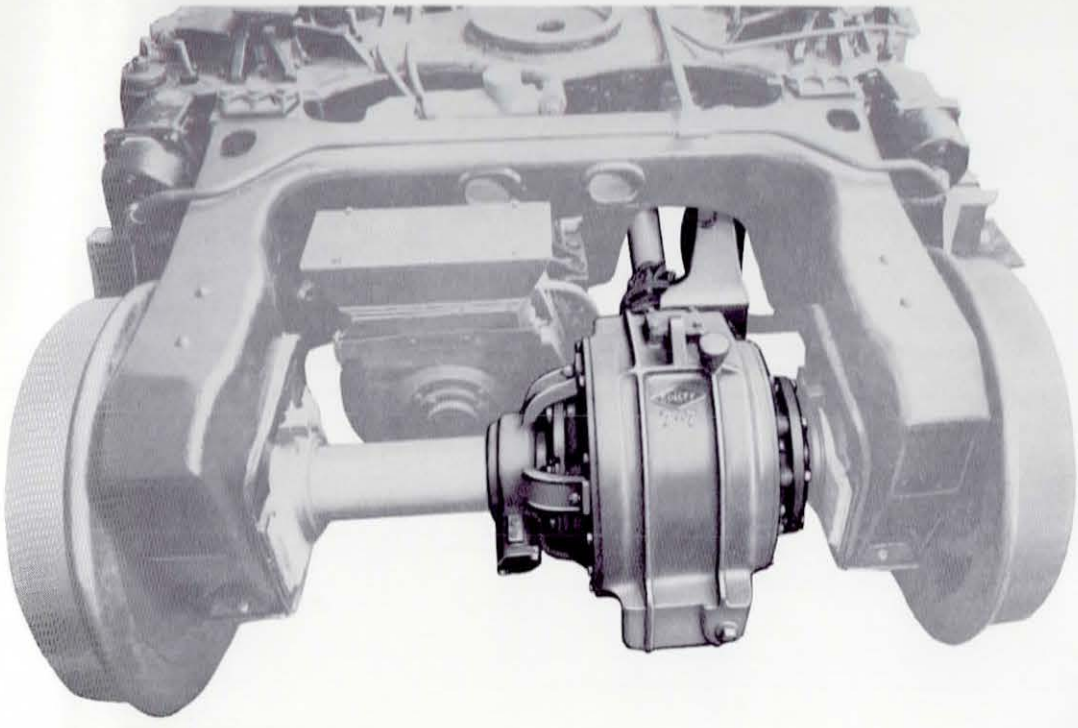

# SPICER TRACTION DRIVES (MODEL 7-7) POWER NEW SUBWAY CARS FOR TORONTO TRANSIT COMMISSION

Based on its performance record, Spicer Model 7-7 Traction Drive was selected for the entire fleet of cars built by Hawker Siddeley Canada Ltd. now being placed in service in Toronto.

All Spicer Railroad and Traction Drives are now manufactured by "Safety" at New Haven, Conn.

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**Spicer (Model 7-7) Traction Motor Drives offer innovations that provide seven specific benefits to rapid transit car users:**

1. **NO FIELD ADJUSTMENT NECESSARY**
2. **FULL CUSHION MOUNTING**
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4. **LARGER RING GEAR**
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**Safety ELECTRICAL EQUIPMENT CORP.**

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hear a special report on the billion dollars that railroads have paid out during the last ten years for loss and damage to shipments. The report strongly urged AARS superintendents to use manpower available to them in the form of their special agent force to augment and amplify the L&D prevention work already under way.

The report bluntly placed responsibility for L&D straightaway on the superintendent's shoulders. "It is part of their responsibility to be interested in and concerned about L&D. This doesn't mean he is expected to play the role of detective, but he should certainly know the general trend of losses and should cooperate more closely with his police. In most cases, he should expect greater help from them.

"Police should not be reserved for emergencies like strikes and wrecks," noted the report, but should be integrated into the total railroad operation in such fashion as to be used in daily operating problems such as the mounting L&D level.

● **Only facts, sir . . .** Superintendents, like all executives, thrive on facts—and the railroad police are trained to furnish him with facts. L&D prevention, urged the report, should be given a high priority and planned thoroughly. "It must depend upon sound, two-way communication. Important losses, damage, irregularities and sound suspicions should be referred to the special agents promptly for investigation and reporting." Cultivation of employee cooperation is essential, but tight control of vital areas like yards, freight offices and TOFC areas are also important to the over-all curbing and reduction of the industry's L&D bill.

● **Insurance costly.** Railroads, as common carriers responsible for the entire value of shipments they handle, stand to take some powerful blows in the cash register from some shipments. A car of cigarettes, for instance, may earn only $400 in revenue—but be worth $150,000. A careless employee—or loose security measures that permit the loss of such a load—can result in a disastrous claim on the railroad.

"Public police and police in other industries—as well as on some railroads—have long been used successfully as a preventive agency in achieving desired managerial objectives." Their observations and suggestions, notes the special report on L&D to the AARS meeting this week, can be helpful—and should be used to a greater extent than that at present.

● **Strong medicine needed.** The AARS report wound up with a prescription for the L&D malady that might contribute to the efforts currently being made by industry claim agents and L&D prevention officers. A radical change in railroad L&D outlook was recommended. Railroads must:

—Stop accepting L&D losses as fixed costs.

—Become security conscious, especially with TOFC facilities and terminal areas where temptation is placed before both honest and dishonest persons.

—Improve communications, so that investigations of L&D can be made while the claim is "hot."

—Make police departments a part of the railroad's total L&D prevention operation.

—Learn where losses are greatest.

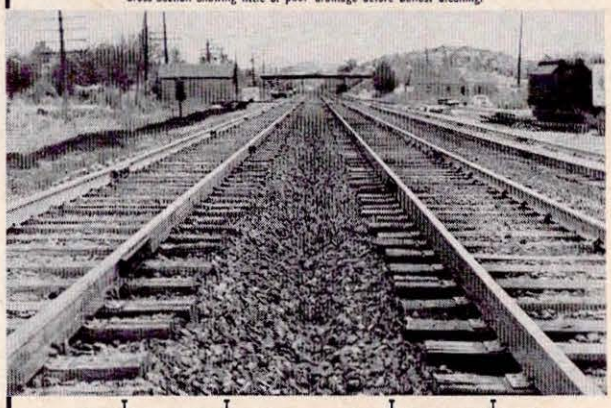
—Plan to reduce L&D specific-item by item.

—Enlist the cooperation of every railroad man **and woman.**

"Security is a full-time problem and is part of supervisory responsibility right down the line. It must be made part of the basic training of every supervisor and should be interwoven so intimately into operation that it becomes to operations what rails are to the trains." ■


ECONOMICAL TRACK DRAINAGE
WITH SPENO Ballast Cleaning

Cross-Section showing little or poor drainage before Ballast Cleaning.

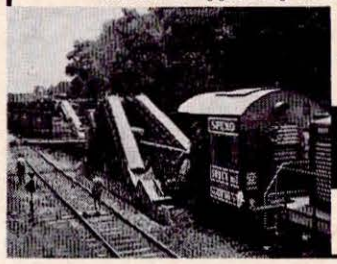


Cross-Section showing good drainage after cleaning with SPENO Ballast Cleaner.

The transformation in drainage conditions shown in these photos was accomplished with a SPENO Ballast Cleaning Machine... Time Tested — and Proved — Year after Year on the railroads of the Nation.

For just a few pennies per track foot you can have good track drainage that saves maintenance dollars.

Write or telephone for a Ballast Cleaning program for your railroad.



One of the SPENO Ballast Cleaning machines.

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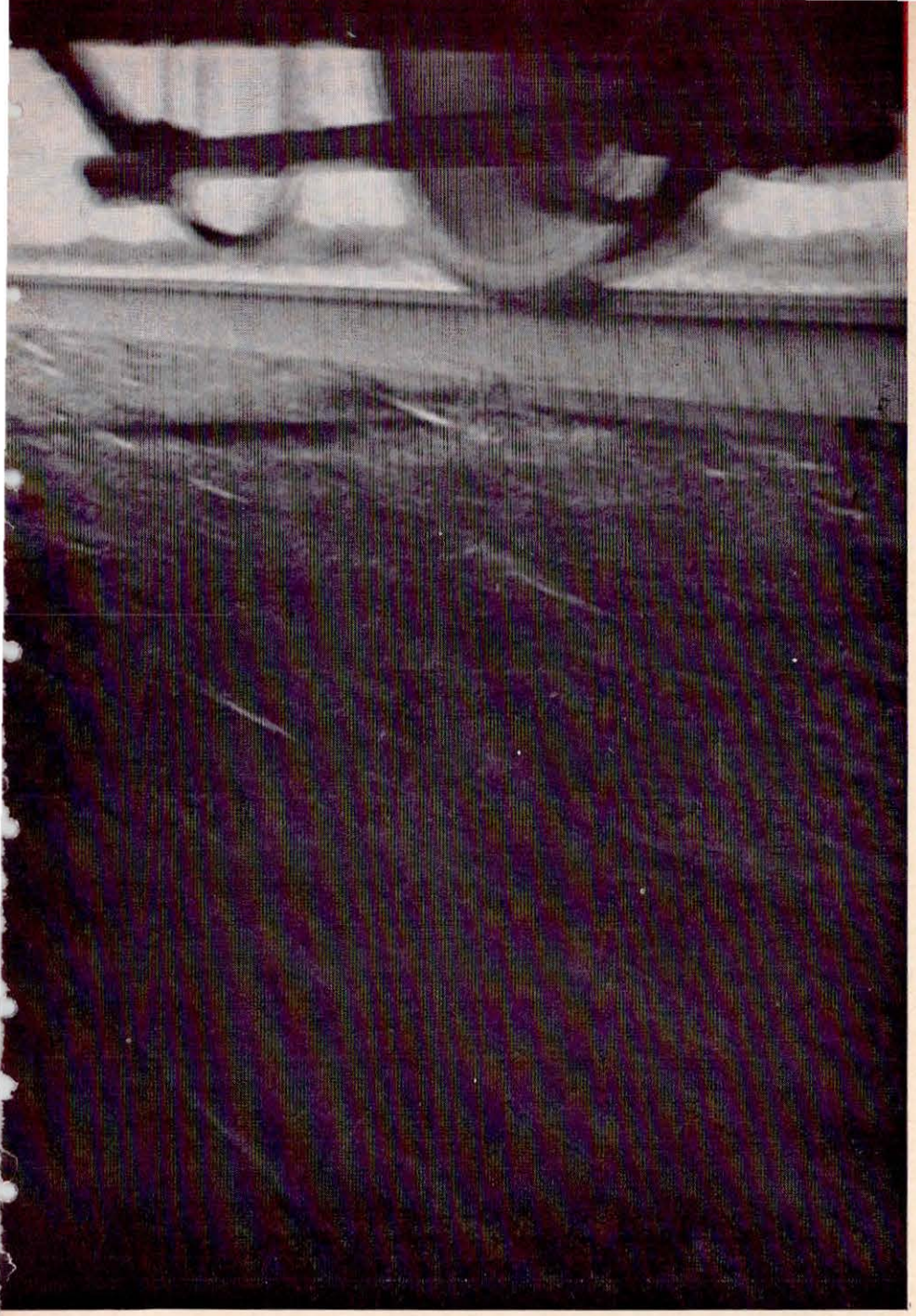
# Wear is a problem:



# Hi-Si® rail is a solution

An economical solution, particularly on curves, grades, and where wheel loads are known to be excessive.

How can Hi-Si Rail solve the problem? It can't completely. Wear is inevitable. But Hi-Si can lengthen the useful life of curve and grade sections from 50% to 100%. Increased silicon content makes the difference in Hi-Si Steel Rail toughness. The result is to retard gauge corner shelling, metal flow in the head and abrasion.

But CF&I Hi-Si Rail makes another difference, too. Longer continuous operating life means lower maintenance, lower repair and lower labor costs. Even the initial cost of the rail is an economy when Hi-Si's greatly increased wear characteristics are considered.

Hi-Si Rail is another example of improved rail developed by CF&I in cooperation with the railroad industry. The Colorado Fuel and Iron Corporation, Denver, Colorado. D-274

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CF&I STEEL

Hugh F. MacLeod
GTW

Joseph A. Austin
MP

Donald J. Smith
MP

Marvin L. Smith
MP

# PEOPLE IN THE NEWS

**ATLANTA & WEST POINT—WESTERN OF ALABAMA.—Donald D. Strench** elected executive vice president on June 1.

**ATLANTIC COAST LINE.—Terence O'Brien** appointed assistant superintendent, Tampa Division, Mulberry, Fla.

**BALTIMORE & OHIO.—Donald E. Sheeran,** assistant to regional manager, Cincinnati, Ohio, appointed to the newly created position of terminal manager, St. Louis, Mo.

**CHESAPEAKE & OHIO.—Frank R. Rice,** assistant chief engineer—construction, Huntington, W. Va., appointed assistant chief engineer—system there. **Harold W. Kellogg,** assistant chief engineer—maintenance of way, and **William M. S. Dunn,** staff assistant to chief engineer, both at Huntington, named regional assistant chief engineers. Mr. Rice will have headquarters in Huntington and Mr. Kellogg will have offices in both Huntington and Detroit.

**Ulysses G. Clemons,** general foreman, Hinton, W. Va., Shops, appointed master mechanic there, succeeding **V. V. Viar,** retired.

**C. J. Whitmore,** road foreman of engines—assistant trainmaster, appointed trainmaster—road foreman of engines, Detroit, and his former position abolished. **Max E. Forrest,** assistant trainmaster, named trainmaster, Detroit.

**Ralph B. Goodman,** general passenger agent, Richmond, appointed passenger traffic manager there.

**C. W. Campbell** appointed general sales manager, remaining at Cleveland. **W. F. Adams** named freight traffic manager—rates (system), remaining at Richmond.

**T. W. Lawson** appointed auditor overcharge claims; **J. L. Strang, Jr.,** named auditor station accounts, and **L. B. Carver, Jr.,** appointed auditor zone accounting bureaus, all at Richmond.

**CHICAGO & NORTH WESTERN.—A. T. Eichmann** named trainmaster, Iowa division, Boone, Iowa, succeeding **C. R. Hellem,** transferred to the Chicago Freight Terminal division, Proviso, Ill. **C. F. Biron** appointed trainmaster, Lake Shore division, Escanaba, Mich.

**CHICAGO GREAT WESTERN.—E. J. Forster,** assistant vice president-rates and divisions, Chicago, retired May 31 after nearly 52 years' service. **H. O. Malm** named assistant vice president, rates and divisions; **J. I. Metzger,** freight traffic manager-divisions; **P. P. Borsik,** freight traffic manager-rates; **D. E. Perry** and **H. M. Edelmann,** general freight agents-rates, all with headquarters at Chicago.

**ELGIN, JOLIET & EASTERN.—Joseph A. Vogrin,** car accountant, retired Apr. 30 after more than 39 years of service.

**Ronald J. Johnson** appointed assistant to chief mechanical officer, Joliet, Ill., replacing **Harold W. Hartshorne,** who retired May 31 after 47 years' service.

**Jack D. Shoffner** appointed assistant to chief engineer Joliet, Ill., to succeed **Gerald J. Haney,** resigned.

**ERIE LACKAWANNA.—Walter J. Denzer** appointed district sales representative, Cleveland, succeeding **J. A. McCall,** promoted.

**W. E. Bell,** signal engineer, appointed chief signal engineer, Cleveland, succeeding **F. Youngwerth,** resigned.

**GEORGIA.—Donald D. Strench** appointed assistant general manager, Atlanta, Ga.

**GRAND TRUNK WESTERN.—Hugh F. MacLeod** appointed public relations manager, Detroit, succeeding **Brant E. Ducey,** named supervisor of films, radio and television news, **Canadian National,** Montreal. Mr. MacLeod was formerly supervisor of advertising, **CN,** Montreal.

**ILLINOIS CENTRAL.—Keith H. Lyrla,** assistant comptroller, elected comptroller. **George M. Craig,** general auditor, succeeds Mr. Lyrla, and in turn is succeeded by **William A. Smith, Jr.,** freight claim agent.

**KANSAS CITY SOUTHERN.—Wilfred A. Hardy,** commercial agent, New Orleans, named general agent there, to succeed **Leo J. Rosentreter,** who retired May 31 after more than 56 years of service.

**LEHIGH VALLEY.—James J. Ogle** named assistant western traffic manager, San Francisco. **Thomas H. Madden** appointed district freight agent, Memphis, Tenn.

**LONG ISLAND.—Thomas P. Moore,** auditor of disbursements, Jamaica, N.Y., appointed to the new position of assistant comptroller.

**MISSOURI PACIFIC.—Joseph A. Austin,** general superintendent of transportation, St. Louis, elected vice president, Houston, Tex. **Donald J. Smith,** general manager, Gulf District, Houston, advanced to assistant vice president-operation, St. Louis, to succeed **Marvin L. Smith,** elected vice president, **MP-T&P,** Dallas. **Harry L. Schaeffer,** vice president-executive department, Houston, retires July 1 after 49 years of service.

**Charles D. Peet,** vice president-finance, retires July 1.

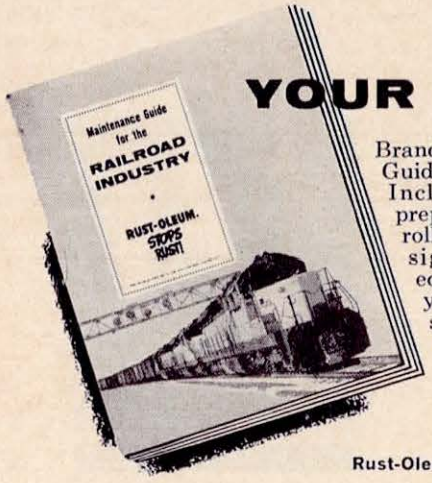
**NEW YORK CENTRAL.—Harold J. Schneider** appointed editor, **The Headlight,** employee publication. Mr. Schneider was formerly office assistant to vice president in charge of public relations and advertising.

**Edward J. Zarriello,** district freight salesman, New York, appointed district perishable sales manager—system. **S. Joseph Stinson,** assistant district perishable sales manager, New York, appointed division perishable sales manager—system.

**George J. Jacks,** director of budgets and controls, appointed district auditor of expenditures for the NYC system at New York.

**NORFOLK SOUTHERN.—L. A. J. Morris** transferred as district sales manager from Rich-

(*Continued on page 48*)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# MARKET OUTLOOK

## Carloadings

Loadings of revenue freight in the week ended June 5, which included the Memorial Day holiday, totaled 536,916 cars, the Association of American Railroads announced on June 10. This was a decrease of 71,616 cars, or 11.8%, compared with the previous week; a decrease of 36,735 cars, or 6.4%, compared with the corresponding week last year; and a decrease of 68,445 cars, or 11.3% compared with the equivalent 1963 week. Ton-miles generated by carloadings in the week ended June 5 are estimated at 1.3 billion, a decrease of 3.5% below the corresponding week of 1964, and a decrease of 4% below the 1963 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, June 5

| District | 1965 | 1964 | 1963 |
|---|---|---|---|
| Eastern, including Allegheny and Pocahontas .. | 216,017 | 231,449 | 249,557 |
| Southern ..... | 110,438 | 110,855 | 111,208 |
| Total Eastern and Southern Districts ..... | 326,455 | 342,304 | 360,765 |
| Northwestern . | 75,582 | 82,976 | 83,160 |
| Central Western | 99,063 | 110,587 | 118,177 |
| Southwestern .. | 35,816 | 37,784 | 43,259 |
| Total Western Districts .... | 210,461 | 231,347 | 244,596 |
| Total All Roads | 536,916 | 573,651 | 605,361 |
| Commodities: | | | |
| Grain and Grain products ..... | 40,670 | 41,777 | 52,115 |
| Livestock ..... | 1,413 | 1,874 | 2,160 |
| Coal ..... | 100,310 | 112,074 | 116,907 |
| Coke ..... | 8,497 | 8,222 | 8,991 |
| Forest Products | 36,551 | 38,090 | 38,181 |
| Ore ..... | 51,692 | 54,491 | 51,990 |
| Merchandise l.c.l. | 8,490 | 12,700 | 17,363 |
| Miscellaneous . | 289,293 | 304,423 | 318,554 |
| June 5 ..... | 536,916 | 573,651 | 605,361 |
| May 29 ..... | 608,532 | 568,158 | 549,861 |
| May 22 ..... | 605,893 | 586,884 | 598,419 |
| May 15 ..... | 601,655 | 583,105 | 601,062 |
| May 8 ..... | 598,734 | 573,108 | 598,876 |
| Cumulative total, 23 weeks .... | 12,630,346 | 12,337,835 | 12,384,288 |
| Estimated revenue ton-miles (billions) 23 weeks .... | 296.7 | 284.1 | 267.7 |

**PIGGYBACK CARLOADINGS**—U. S. piggyback loadings for the week ended May 29 totaled 20,343 cars, compared with 16,998 for the corresponding 1964 week. Loadings for 1965 up to May 29 totaled 417,832 cars, compared with 358,927 for the corresponding period of 1964.

**IN CANADA.**—Carloadings for the seven-day period ended May 21 totaled 80,584 cars, compared with 80,095 for the previous seven-day period, according to the Dominion Bureau of Statistics.

| | Revenue Cars Loaded | Total Cars Rec'd from Connections |
|---|---|---|
| Totals for Canada | | |
| May 21, 1965 ..... | 80,584 | 25,220 |
| May 21, 1964 ..... | 72,036 | 24,550 |
| Cumulative Totals | | |
| May 21, 1965 ..... | 1,416,727 | 491,468 |
| May 21, 1964 ..... | 1,430,627 | 508,547 |



## FREIGHT-TRAIN CARS

► *Green Bay & Western.*—Ordered 20 70-ton 50½-ft outside stake box cars from Pullman-Standard for delivery in January 1966.

► *Northern Pacific.*—Ordered 100 100-ton, 6,000 cubic-foot capacity wood chip cars from Thrall Car at a cost of about $1,250,000.

► *Pacific Fruit Express.*—Plans to acquire 2,000 multi-purpose mechanical refrigerator cars from Pacific Car & Foundry. Deliveries will begin in December. The new 50-ft, 70-ton cars will have foamed-in-place insulation, nine-foot-wide door openings to facilitate loading and unloading, cushioned underframes, and fiberglass-reinforced plastic linings.

► *Santa Fe.*—Ordered 200 piggyback flat cars from General American and 100 63½-ft shock-control flat cars from Thrall Car. Company shops at Topeka, Kans., will build 200 53½-ft shock-control flat cars and 500 50½-ft, 70-ton insulated box cars equipped with load dividers.

## NEW FACILITIES

► *Northern Pacific.*—Has started construction of a new 37-mile line between Old Fort Lincoln and Flasher, North Dakota, on the Mandan South Line Branch. The project, made necessary by dam construction, will be completed by the end of 1967. Two other major projects are scheduled for completion this year—a tunnel daylighting and one mile line relocation west of Helena, Mont., and a five-mile line change near Granite, Idaho, which will eliminate one tunnel and a large viaduct and shorten the line by 1.8 miles.

► *Chicago Transit Authority.*—Has awarded General Railway Signal a $702,480 contract for signaling equipment for the Lake rapid transit route. The automatic train detection and overspeed control system is of the latest design and will be the first installation of an in-cab signaling and speed control system using audio frequency track circuits by any operating rapid transit property in the U.S. With this system, visual signals are brought into the cab, keeping the motorman continuously aware of track conditions ahead of him, as well as of the allowable speed of the track in use. The equipment will be installed in the cabs of 70 two-car units of CTA's Lake route cars. The total amount of the project is more than $1 million, including installation.

## FOREIGN

► *Indian Railways.*—Tenders are being asked for a 200-hp diesel shunting locomotive, maximum axle load 15.5 tons, 1676mm gauge. Bid deadline is June 29. Tender documents are available from the India Supply Mission, 2536 Massachusetts Ave., NW, Washington, D.C. 20008 (I.S.M. Ref. No. D/ENQ/1710) for $2.10 each.

► *Mexican National Railways.*—Will buy $10 million worth of steel rails from Dominion Steel and Coal Corp., Sidney, N.S., Canada. The agreement authorizes the Canadian Export Credits Insurance Corp. to provide financing to cover the sale. Mexican National Railways have bought a total of $55 million worth of rails and accessories from Dominion Steel over the last five years.

# YOU OUGHT TO KNOW

**Passenger car tests:** Gas-turbine rail cars are under study for a Northeast Corridor demonstration project on the New Haven between Boston and Providence, R.I. Average speeds of 100 mph should be well within the capabilities of a lightweight car powered by a 350-pound, 600-hp gas turbine, Dr. R. A. Nelson, director of Transportation research, U.S. Department of Commerce, told a New York group recently. Some technical aspects of the prime mover installation remain to be worked out, he said. Previously announced have been projected runs at speeds up to 125 mph on the Pennsylvania between New York and Washington with a fleet of up to 40 new electric multiple-unit cars. Demonstration project funds still must be approved by Congress.

**A $13 million transit package:** Gov. William Scranton of Pennsylvania has drawn up plans for a two-year mass transit aid program that would cost $13 million. Under the plan, $6 million would be spent for equipment, of which $3 million would be slated for the Allegheny County Port Authority. Philadelphia would get $2 million for equipment when needed, and other areas would get $1 million. Philadelphia would also get $5.7 million to offset operating deficits over two years, and the remaining funds would go into transportation studies and research programs.

**Los Angeles transit financing stymied:** A bill that would have let the Southern California Rapid Transit District go to the county's voters for permission to raise the auto license fee to finance rapid transit has been killed in the state legislature. Now, a survey of Los Angeles County voters shows that 48% of those queried would have voted no on the proposal; 38% yes.

**A line to go back to steam:** The ICC has okayed the application of the New Hope & Ivyland Railroad to buy 16.7 miles of the Reading's New Hope branch between New Hope and Ivyland in Bucks County, Pa. The route hasn't seen a passenger train since 1952, but the owners of the New Hope & Ivyland plan to change that. The NH&I is a steam-powered road headed by a group of Philadelphia businessmen who propose to run steam passenger trains on the line. The purchase price is $200,000. The ICC order would require the NH&I to continue freight service on the route.

**A threat to national security?** Coal industry spokesmen are warning that national security will be impaired if the U.S. East Coast becomes more dependent upon foreign fuel. In arguing against removal of import controls on residual fuel oil, they say that dependence has already reached dangerous proportions and that risks for the nation will be further compounded if oil curbs are removed.

**Marketing on the CN:** Canadian National is now offering tailor-made transportation packages to the industries it serves. The road has set up a program offering services of marketing specialists who will identify the transport requirements of the industries to which they are assigned, and will coordinate development of CN's rates, services, equipment and facilities to meet these needs.

**New industrial development officers:** The American Railway Development Association elected a new slate of officers at its 56th annual meeting in Memphis, Tenn. The new president is Wayne C. Fletcher, director of ID for the C&O. Other officers are: F. D. Holter, Erie Lackawanna, first vice president; H. P. McMillan, Canadian Pacific, second vice president; T. T. Martin, GM&O, secretary-treasurer.

**Truck tonnage:** Intercity truck tonnage in the week ended May 29 was 1.9% above that of the previous week, and 13% above the volume in the corresponding week of 1964, according to American Trucking Associations. Part of the increase may be attributed to the fact that the Memorial Day holiday was observed on Saturday of the comparable week in 1964.

## Current statistics

| | |
|---|---|
| **Net income** | |
| 3 mos., 1965 | $121,000,000 |
| 3 mos., 1964 | 133,000,000 |
| **Carloadings, revenue freight** | |
| 23 wks., 1965 | 12,630,346 |
| 23 wks., 1964 | 12,337,835 |
| **Freight cars on order** | |
| May 1, 1965 | 35,138 |
| May 1, 1964 | 32,973 |
| **Freight cars delivered** | |
| 4 mos., 1965 | 25,029 |
| 4 mos., 1964 | 23,829 |
| **Serviceable cars** | |
| May 1, 1965 | 1,409,198 |
| May 1, 1964 | 1,409,716 |

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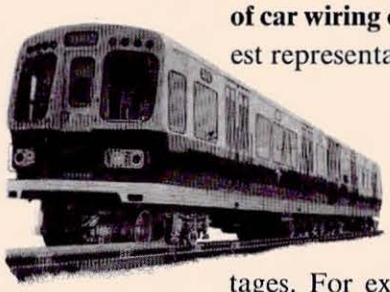

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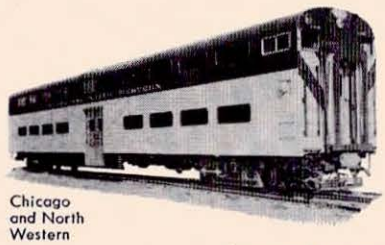

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*(Continued from page 44)*

mond, Va., to Chicago, succeeding **B. E. Geeslin,** regional sales manager, Chicago, who, for reasons of health, has been placed on the inactive list.

**PIEDMONT & NORTHERN.—Floyd E. McClamrock** appointed general freight agent-rates, Charlotte, N.C., succeeding **H. R. Ellis,** who retired May 31 after nearly 45 years of railroad service, 26 with the P&N. Mr. McClamrock was formerly assistant general freight agent—rates, Charlotte.

**ROCK ISLAND.—Richard R. Farrell,** formerly traffic manager, **Wheeling Steel Corp.,** Wheeling, W. Va., named assistant manager-industrial development, **RI. Thomas H. Brettschneider** and **Edward F. Wozniak** appointed industrial agents.

**SOUTHERN PACIFIC.—John N. Cetinich,** assistant manager of specialized operations, San Francisco, appointed executive assistant in the office of vice president-system operations. **William Lawrence,** executive assistant will retire June 30, after 48 years with the SP.

**V. A. Wolfe,** assistant manager, Real Estate Department, promoted to manager of that department, San Francisco, succeeding **R. P. Bray,** who retired May 31 after over 45 years with the SP.

**W. C. Dunn** and **W. P. Faucheux** appointed trainmasters at Avondale and Beaumont, Tex., respectively.

## Supply Trade

**John L. Beven, Jr.,** has been elected vice president-sales, **Maintenance of Way Division, Western Industries, Inc.,** Chicago.

**Carl A. Danielson,** chairman of the board, president and chief executive officer, **Cardwell Westinghouse Co.** and **Universal Railway Devices Co.,** Chicago, retired May 20, after nearly 48 years of service. **F. E. Carlstedt** elected chairman of the board and chief financial officer. **D. S. Campbell** elected president, chief administrative officer, and director. **H. L. Monger** named vice president—sales.

**Mellor W. Stevenson,** vice president of marketing for **National Castings Co.,** Cleveland, prior to its recent merger with **Midland-Ross Corp.,** has been appointed vice president-business development for Midland-Ross. Mr. Stevenson will continue to be associated with the marketing activities of the National Castings Division.

**Sol N. Berman,** president of **Berman Leasing Co.,** Pennsburg, Pa., was recently elected chairman and chief executive officer. **Carl T. Crumrine,** executive vice president, has been elected president and chief operating officer. **Wentworth P. Johnson** resigned as chairman of the board and of the executive committee, but remained as a director. Mr. Berman has been named chairman, executive committee, composed of Messrs. Johnson and Crumrine. Mr. Crumrine is a former executive, **Chicago & North Western.**

**Robert S. Morton** has been elected president, **Morton Manufacturing Co.,** Chicago. **Granville G. Ward** elected treasurer. Both succeed **John D. Cannon,** who will continue with the company as a director and consultant.

**Raymond D. Zimmons** has been appointed manager of marketing for export locomotives **Alco Products, Inc.,** Schenectady, N.Y. He formerly was manager of administration, international operations division, New York.

**William F. DeVaney** has been appointed sales promotion manager, **Onan Division of Studebaker Corp.,** Minneapolis, Minn. He was formerly special projects coordinator at Honeywell.

**T. Sanford Cooke, Jr.,** has been appointed Southeast district sales representative, **American Car & Foundry division, ACF Industries,** Washington, D.C. Mr. Cooke was formerly with the **Seaboard.**

**Donald E. Jessie** has been named district sales manager, **Shippers Car Line,** division of **ACF Industries** at Houston, Tex. He had been sales representative, Houston office.

## OBITUARY

**Irving Finkel,** 70, who retired in 1960 as a division engineer, **New York City Transit Authority,** died June 2 at Hillcrest General Hospital, Flushing, N.Y. Mr. Finkel became chief engineer for **Colonel Sidney H. Bingham Associates,** consulting engineers, after his retirement.

**Charles Daniel Leech,** Sr., 73, retired general auditor, **Chicago River & Indiana** and **Indiana Harbor Belt** at Chicago, died May 23 in a Bakersfield, Calif., Hospital.

**A. D. Martin,** 79, retired general passenger traffic manager, **Rock Island,** died May 30 at Mountain Home, Ark.

**Raymond A. Walton,** 79, retired freight traffic manager, **Wabash,** died June 5 at Clearwater, Fla.

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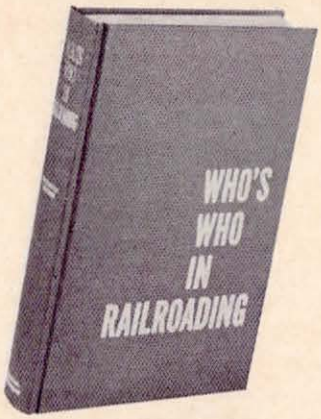


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# A big try in New Orleans

**Interdepartmental RPRA, RPA and ARMEA session aimed at effective employee communications on railroads is promising.**

Many of the railroad officers who were involved in the work rules case are turning toward another problem. This week, in New Orleans, members of the Railroad Public Relations, Railroad Personnel and the American Railway Magazine Editors associations are addressing themselves to this question: How do you achieve an accurately—and adequately—informed work force?

They are going about it in a fashion not often seen in the industry, using what professors are fond of calling an "interdisciplinary" approach. Scholars and researchers often use the technique. For example, when a physicist gets into a bind with a problem that has important chemical, mathematical and geological elements, he may very well call in some chemists, geologists and mathematicians to kick the problem around until a new view emerges. This interdisciplinary approach, in fact, is being used in advanced universities to make students more creative and less inhibited when probing at problems. This viewing of problems "in the round" is highly regarded by intellectual tacticians in schools, government and in the aerospace industry.

Such an approach is not common in the railroad industry. Many carriers, though, are acutely aware of the value of those rare individuals who somehow get interdepartmental knowledges and who have the creative gift for connecting their separate knowledges into meaningful answers as problems arise. Many railroads have training programs aimed at producing such individuals.

But the problem behind the RPRA- RPA-ARMEA communications seminar at New Orleans this week can't wait. It is important and it is pressing. Solved or unsolved, it will profoundly affect the future of the industry.

How *do* you talk with employees? Not just *what* do you say to them and *when* do you say it—but rather what needs to be done to make the industry's work force a completely and accurately informed body of men and women so that railroads can compete for business under top conditions? Railroad workers high and low somehow need to be convinced that it is in their own interest that their companies win the fight for business. Some experts think this kind of conviction can come only to workers who have topnotch jobs and who are totally aware of the industry's aspirations, plans, competitive realities, technical problems and legislative needs. Union communications tend to concentrate on the "topnotch job" part of the formula —despite the fact that railroad workers are already near the top of the U.S. industrial worker totem pole. Many industry officers despair of ever finding an answer to the problem.

It is a tall order. And yet, it is worth going after. Industrial psychologists say a workable solution that is economically defensible would produce an efficiency upswing comparable to the most profitable kind of capital investments railroads now make. And the railroads would not be the only ones to benefit. Every man and woman in the industry would benefit from stronger, more stable and, probably, higher-paying jobs as the industry spurted ahead of the competition.

RPRA, RPA and ARMEA men at New Orleans are confronted with a formidable task. They've invited two industry leaders to set the stage for their attempt to see this problem in the round. National Railway Labor Conference Chairman J. E. Wolfe will tell the joint session how informed employees are an asset even when it comes to labor negotiations. Milwaukee President W. J. Quinn will talk about some of the ways that effective employee communications pay off in better operations. A battery of other experts will discuss, analyze and dissect the basic problem confronting all three of the organizations.

## Informal sessions are important

The formal sessions were designed, of course, to squeeze in the greatest and most varied possible discussion of the problem confronting the groups. But, there'll be an added benefit. Valuable results are bound to come during the corridor sessions when members of RPRA, RPA and ARMEA mix without benefit of rank and departmental guidelines. Those informal sessions, in fact, are often when brains get aligned with know-how, when judgment recognizes genuine insight and when the capacity for analysis sometimes gets powerfully amplified by an alliance with a knowledge of people.

The men at New Orleans have an extra claim on the industry for their good work in the work rules case. They rate indulgence, in fact, in this pursuit of answers to such an involved and important question. The industry should look with interest and hope at this effort if only because of the desperate need to make every employee a pusher for the railroads. With employment diminishing every year, every individual railroader becomes more and more valuable in the struggle with the competition.

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